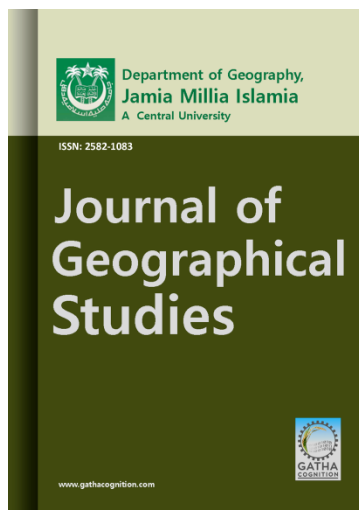




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Factors Behind Women's Decision Making Autonomy: An Analysis from Nationally Representative Survey

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Original Research Paper

Factors Behind Women's Decision Making Autonomy: An Analysis from Nationally Representative Survey



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Abstract

The socioeconomic variables have a strong impact on the decision-making and physical movement of women, worldwide studies suggest the same. In this study, we have tried to know the various determinants of women's autonomy. We have taken the data from the fourth round National Family Health Survey (NFHS) (2015-16), published by the International Institute on Population Sciences (IIPS). For the statistical analysis, we used basic descriptive statistics and cross-tabulation between the socioeconomic variables and autonomy responses. Later to predict the occurrence of various autonomy aspects, binary logistic regression has been used with various socioeconomic variables. After getting the results, it has come to know that women's decision-making and freedom of movement-related autonomy are largely influenced by socioeconomic variables. Major findings stated that with increasing age of women, autonomy increases. Women who belong to the rural setup have a low level of autonomy. From a religious perspective, women from the Muslim community have lower autonomy. Apart from these women have higher education, employed and in rich households have a higher likelihood of autonomy. Based on the outcomes, it is clear to us that women's autonomy is largely influenced by their socioeconomic condition.

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1 INTRODUCTION

Women's autonomy simply means the ability of personal fulfillment and active participation in the family decision-making process. To improve maternal health and child health outcomes, in the year 1994 International Conference on Population and Development (ICPD) organized in Cairo gave more consideration to the role of women's empowerment in influencing reproductive behaviour and women's autonomy in healthcare. The concept of women's autonomy is broad and multi-dimensional which means control over resources and ideologies (Pradhan, 2003). Therefore, women's autonomy largely emphasizes the ability to decide their actions, the ability to sustain their requirements such as material or financial resources and their ability to move without restraint in the community (Abadian, 1996). Women's decision-making right is also affected by restrictions on women's physical, sexual,

social, economic and political autonomy, several effective programs have played very significant role in enhancing the decision-making autonomy of women (Dyson and Moore, 1983). Autonomy can be measured by a combination of several dimensions of autonomy and power including decision-making abilities, controlling power over finances and also the liberty of mobility (Haque et al., 2012; Kabir et al., 2005; Rahman, 2012). Women's autonomy in health care decisions is largely determined by various factors such as age, education, place of residence and wealth index. The higher educated women and urban rich or employed women have more autonomy compared to rural women (Senarath and Gunawardena, 2009). Women's education, occupation and income have a significant effect on the household decision-making power (Sultana, 2011).

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The evidence from developing countries illustrates that women's age and family structure are important determinants of women's ability in decision-making. Elderly women and women in nuclear households are more likely to take part in family decisions than women who live in joint families (Sathar and Kazi, 2000). Some studies in developing countries also revealed that women's household decision-making autonomy is significantly associated with the current use of modern contraceptives and also highlighted the household organization and socioeconomic status of the women. It is also noted that the women's involvement in household decision-making autonomy are essential determinants for the contraception use and also long-term fertility reduction (Rahman et al., 2014; Bogale et al., 2011). Women's autonomy is strongly associated with the utilization of maternal health care services. Women who are participating in different social and economic activities have more autonomy. However, women's autonomy is also determined by the educational background and economic status of the households (Haider et al., 2017).

Different studies show that the decision-making autonomy of women determines the utilization of healthcare services. Decision-making autonomy particularly in healthcare is strongly associated with the utilization of maternal healthcare services (Adegoke and Broek, 2009; Dangal and Bhandari, 2014). A study based in Africa indicates that ethnicity has a major role in determining women's decision-making autonomy and it is a significant determinant among other individual-level characteristics (Kritz and Makinwa-Adebusoye, 1999). Another study highlighted the women's decision-making determinants where it is clear that educated and employed women are more likely to participate in the household decision-making process. Another important fact also found that husbands' reports on decision-making power are higher as compared to wives' reports on the household decision (Becker et al., 2006). The result of developing countries also reflects that women's decision-making ability is largely determined by their age, education, employment status, region, wealth index and the number of living children (Acharya et al., 2010). Ethnicity, deprivation level, rural and urban classification, education and the number of living children are strongly associated with women's decision-making process (Kabeer, 1999). The previous study of five Asian countries shows that women's autonomy is also highly associated with whether the wives or husbands are respondents as it looks like the categories of response do not have similar semantic meanings for men and women (Ghuman et al., 2006). It has been also noted the women's level of knowledge determined the women's decision-making autonomy (Jan and Akhtar, 2018). Previous studies on developing countries highlighted that patriarchal rules or norms have a great influence on women's decision-making process (Sultana, 2010) and women's age and the structure of the family also have a great influence on women's decision-making

autonomy (Sathar and Kazi, 2000). The various numbers of socioeconomic and demographic determinants associated with women's autonomy at the household level. So, the main objective of the present study is to examine the different factors that affect women's decision-making power at the household level.

2 METHODOLOGY

2.1 Data Source

This study has been conducted by the fourth round of the National Family Health Survey (NFHS) (2015-16) published by the International Institution of Population Sciences (IIPS) under the monitoring of the Ministry of Health and Family Welfare (MoHFW), Government of India. It is a large-scale survey under which all the states and Union Territories have been selected. It provides the data in keeping mind various issues on maternal health, child health, women's characteristics, child immunization, various sexual behaviors, etc. NFHS conducted a nationwide survey of about 601509 households with a response rate of 98% and also women aged 15-49 years with a 97% response rate with a total number of 699686. The survey was conducted with a two-stage stratified random sampling design. In the first stage, a total of 28586 clusters were selected using the Probability Proportional Size (PPS) model. Although during fieldwork 28522 clusters of responses were taken. In the second stage, household mapping and listing operations were carried out from the selected clusters and 22 households were selected randomly from the clusters. A detailed discussion of the sample design and survey procedure has been given in the National Family Health Survey report (International Institution for Population Sciences and ICF, 2017).

2.2 Study Participants

In NFHS-4, a total of 259627 under-five children have been surveyed. Our aim of the study is to know the autonomy status of the mothers of under-five children, so 11884 children were excluded as they died. Later women variables like decision-making and freedom of movement-related variables, have been taken into consideration. As the availability of the data set total of 38338 mothers and child pairs has been finalized for the study.

2.3 Outcome Variables

Women's various decision-making autonomy is our main outcome variable, here Autonomy variables like basic household decision-making (decision on health care, large household purchase and decision on visiting family and friends) and physical movement (visiting market, health care center and visiting outside of the village) related autonomy have considered as a major variable of our study. The decision-making capacity of women has been divided into two categories, women who have taken decisions or moved outside alone or with someone are considered autonomous. While who were not taken the decision, not at all allowed to move outside were considered less autonomous women. These

responses of the women were coded as '0' if women have less autonomy and '1' if they have higher autonomy.

2.4 Predictor Variables

Various socioeconomic variables of the mother of the under-five children have been considered as the predictor variable. The selected predictor variables are like age of the women (15-24, 25-35 and 36-49 years), place of residence (urban and rural), religion (Hindu, Muslim, Christian and other), level of education (no education, primary education, secondary education and higher education), number of living children (1, 2, 3, 4, more than 5), occupational status (non-working and working), wealth quintile (poor, poorer, middle, rich, richer) and region (north, central, east, north-east, west and south).

2.5 Statistical Analysis

We used basic descriptive statistical analyses to show the pattern of the variables selected in our study. Then cross tabulation has been performed to show the percentage of occurrence of decision-making and physical movement related to the autonomy of the women with other socioeconomic variables. Later to predict the autonomy outcomes of the women, by socioeconomic variables binary logistic regression models have been used. It is a statistical technique to test the statistical significance level. It is a very helpful technique to know the relationship between the independent variable and the targeted categorical variable. It is used to predict the dependent variable (women's decision-making autonomy) with the help of independent variables (socioeconomic variables) (Peter, 2015). In the first model (Table 5) associations between women's decision-making autonomy with socioeconomic variables have been performed with a crude and adjusted odds ratio (OR) and in model two (Table 6) associations have been made between women's physical movement-related autonomy and socioeconomic variables. All of the statistical analyses have been performed with STATA software version 12.1 (Stata Corp LP, College Station, TX, USA).

3 RESULTS

In Table 1, decision-making autonomy of ever-married women between the age group of 15-49 years is taken into consideration. Here three autonomy, visiting family and friends' houses, decisions on large household purchases and going to the health facility center were considered for the discussion. It is found that in India 69.37% of women were allowed to make decisions on

visiting friends and family houses. In Uttar Pradesh, women have the least decision on visiting family and friends' houses. The states like Andhra Pradesh, Gujarat, Haryana, Madhya Pradesh, Delhi, Rajasthan and Uttar Pradesh women have very poor decision-making on visiting family and friend's houses (Table 1 and Figure 1).

Among the state's decision on large household goods purchasing capacity of women, Haryana performed as the worst state. Along with Haryana states like Bihar, Telangana and Andhra Pradesh have shown poor autonomy status of women in making decisions regarding purchasing large household items (Table 1 and Figure 2).

In India, around 70.82% of women are making their decision on health care. In Andhra Pradesh, women have less say in health decision-making. States like Goa, Gujarat, Haryana, Karnataka, Madhya Pradesh, Delhi, Odisha, Rajasthan, Uttar Pradesh and Telangana have Shown poor performance compared to the national average (Table 1 and Figure 3).

Table 2 depicts the physical movement-related autonomy of women. Here three basic movements, going to the market, going to the health facility and going outside of the village were considered for the discussion. In India, around 86.72 % of women are allowed to go to the market alone or with someone. Among the states/UT women from Kerala (66.84%) have the lowest autonomy to go to market.

In comparison to the nation poor-performing states/UTs are Telangana, West Bengal, Uttar Pradesh, Tamil Nadu, Pondicherry, Lakshadweep, Kerala, Chhattisgarh and Bihar and Andhra Pradesh. While the women from Kerala and Telangana have low autonomy to go to the market (Figure 4). Around 90.91% of women in India can go to health centers alone or with someone in India. Poor performing states/UTs are, Telangana, Uttar Pradesh, Tamil Nadu, Pondicherry, Madhya Pradesh, Karnataka, Haryana, Bihar and Andhra Pradesh (Table 2).

Around 87.28% of women in India are allowed to go outside of the village. In comparison to India, poor-performing States/UT's are Telangana, Uttar Pradesh, Tamil Nadu, Pondicherry, Haryana, Dadra and Nagar Haveli and Bihar and Andhra Pradesh. Among them once again in Andhra Pradesh (77.44 %), women have the lowest autonomy related to going outside of the village (Table 2 and Figure 6).

Table 1. Percentage distribution of decision-making autonomy of women aged (15-49 years) in India

States/Union Territories	Decision on visiting family and friends' house	Decision on large household purchase	Decisions ongoing for the healthcare
Andaman and Nicobar Island	78.62	76.67	75.97
Andhra Pradesh	65.64	63.43	60.15
Arunachal Pradesh	82.15	79.12	78.67
Assam	75.99	77.24	75.73
Bihar	58.18	60.39	62.72
Chandigarh	80.29	82.26	95.33
Chhattisgarh	75.6	75.83	75.7
Dadra and Nagar Havel	55.31	49.34	68.01
Daman and Diu	76.16	69.97	64.71
Goa	89.19	87.46	89.65
Gujarat	68.48	64.2	67.65
Haryana	59.54	54.92	64.77
Himachal Pradesh	72.32	69.6	79.42
Jammu and Kashmir	69.87	66	71.13
Jharkhand	78.63	78.28	80.15
Karnataka	66.29	65.37	64.7
Kerala	80.16	78.1	80.32
Lakshadweep	69.2	65.45	60.64
Madhya Pradesh	67.56	66.39	67.75
Maharashtra	79.12	70.61	78.62
Manipur	87.46	82.05	89.73
Meghalaya	87.67	85.26	83.11
Mizoram	88.73	89.81	89.34
Nagaland	94.88	92.76	94.22
Delhi	62.84	60.45	66.34
Odisha	69.69	70.97	70.5
Puducherry	76.05	78.05	82.62
Punjab	75.79	69.57	77.49
Rajasthan	66.17	64.3	69.32
Sikkim	91.75	88.21	90.82
Tamil Nadu	74.62	72.09	73.17
Tripura	85.36	83.83	83.88
Uttar Pradesh	65.61	67.23	69.65
Uttarakhand	76.96	76.36	78.71
West Bengal	77.56	79.53	81.79
Telangana	67.98	63.83	62.37
India	69.37	68.27	70.82
Mean	74.93	72.91	75.69
Standard Deviation	9.68	10.11	9.87

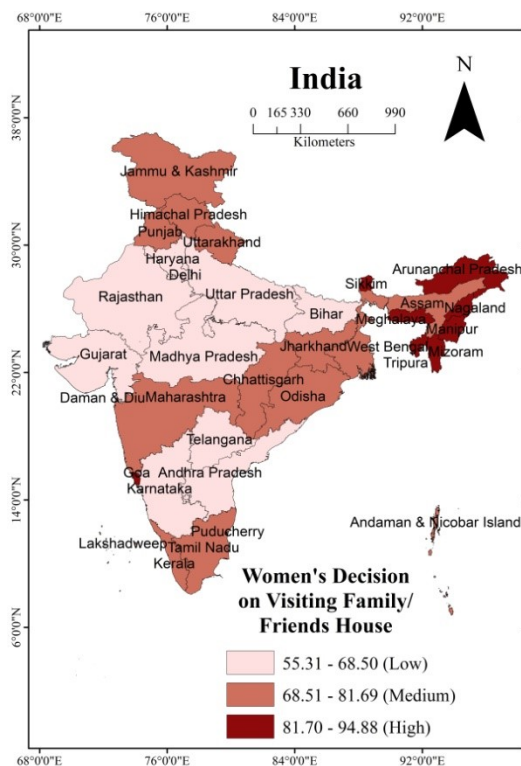


Figure 1. Women's decision to visit family and friends' house

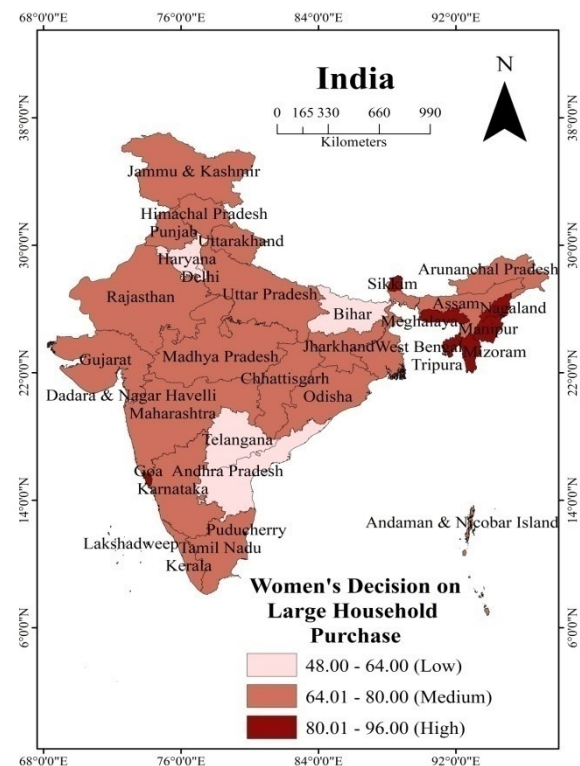


Figure 2. Women's decision on large household purchase

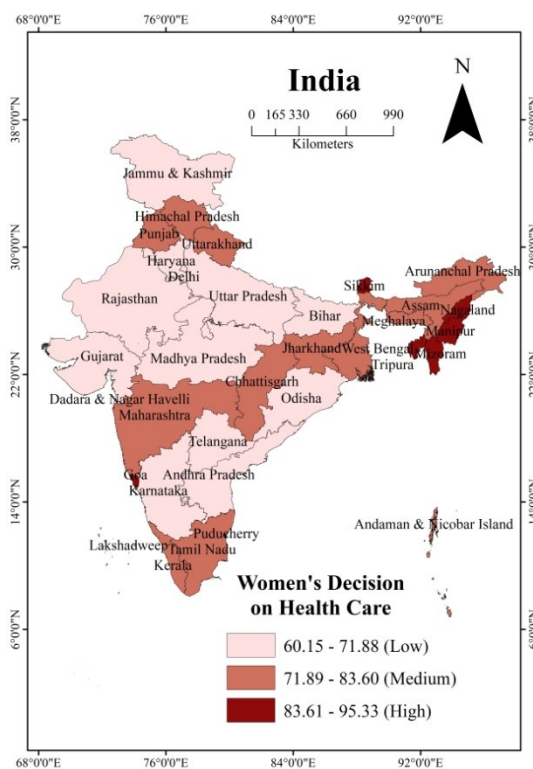


Figure 3. Women's decision on health care

Table 2. Percentage distribution of decision-making autonomy of women aged (15-49 years) in India

States/Union Territories	Allow to go to the health facility	Allow to go outside of village	Allow to go to the market
Andaman and Nicobar Island	98.56	96.85	98.56
Andhra Pradesh	79.1	77.44	78.41
Arunachal Pradesh	96.71	95.77	95.18
Assam	93.14	93.12	88.67
Bihar	85.19	77.86	81.94
Chandigarh	100	100	100
Chhattisgarh	93.59	91.4	87.08
Dadra and Nagar Havel	94.19	84.9	96.97
Daman and Diu	100	100	100
Goa	94	91.09	92.29
Gujarat	95.17	93.71	94.61
Haryana	90.38	83.18	89.58
Himachal Pradesh	99	98.58	98.28
Jammu and Kashmir	99.02	98.21	97.97
Jharkhand	91.93	89.19	86.83
Karnataka	90.56	89.09	88.44
Kerala	98.1	97.79	66.84
Lakshadweep	97.76	95.54	79.13
Madhya Pradesh	90.29	88.62	87.73
Maharashtra	93.54	91.19	89.09
Manipur	98.44	96.35	97.38
Meghalaya	98.77	96.92	98.14
Mizoram	96.95	95.82	96.85
Nagaland	95.46	92.9	92.5
Delhi	95.55	92.09	95.61
Odisha	96.65	92.68	90.13
Pondicherry	88.19	78.06	80.57
Punjab	96.52	95.01	96.71
Rajasthan	94.88	92.14	93.85
Sikkim	99.17	99.17	98.62
Tamil Nadu	90.13	84.69	86.79
Tripura	98.61	98.8	96.81
Uttar Pradesh	89.33	84.44	84.21
Uttarakhand	92.1	90.08	90.31
West Bengal	93.13	89.17	86.28
Telangana	81.17	77.78	76.34
India	90.91	87.28	86.72
Mean	94.04	91.38	90.52
Standard Deviation	5.02	6.63	7.75

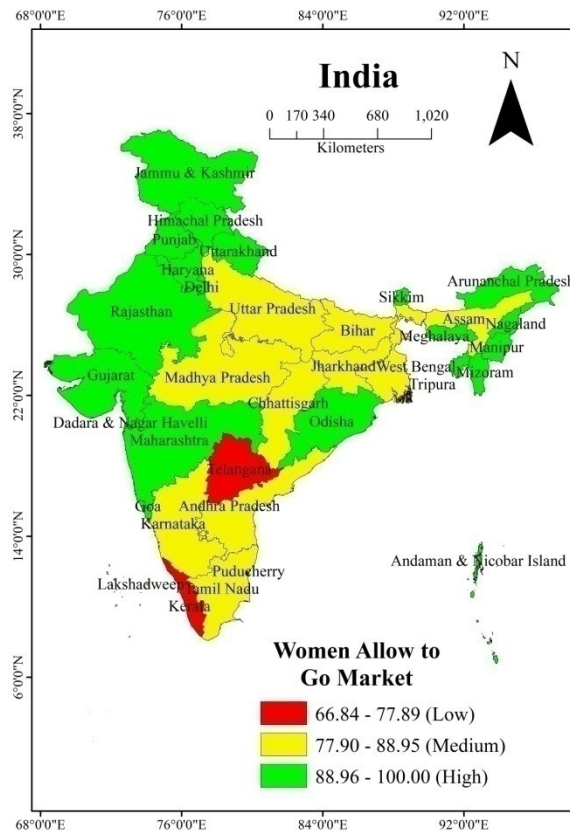


Figure 4. Women are allowed to go to market

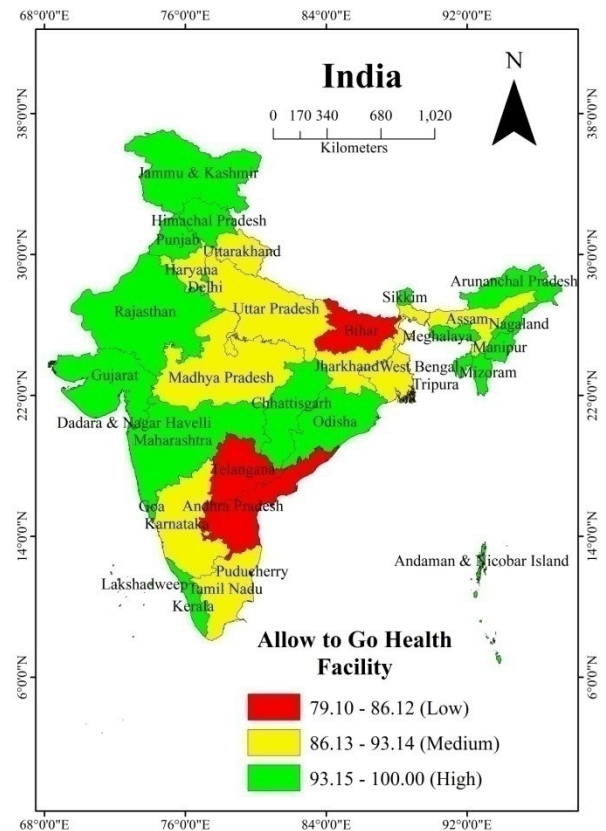


Figure 5. Women are allowed to go to health facility

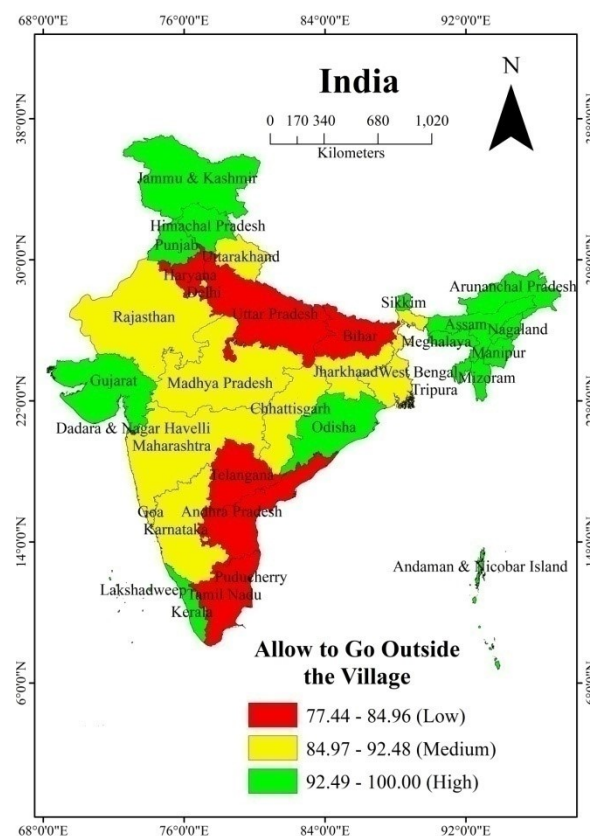


Figure 6. Women are allowed to go outside the village

Table 3 represents the percentage (weighted) distribution of women's autonomy in decision-making (15-49 years) by various socioeconomic characteristics. The result shows that the percentage of women aged 35-49 years are more likely to participate in health care decisions, large household purchases and decisions on visiting family or friends than the younger women. It is found that with increasing age autonomy among the women in decision-making also increased. So it may be said that the relationship between age and women's autonomy is significantly associated ($p = 0.000$). Place of residence also affects women's autonomy to make their own decisions ($p=0.000$). Rural women are less likely to have autonomy in decision-making in all three outcome measures than the women from urban counterparts. Women of other and Christian religions are more likely to have autonomy in decision-making compared to Muslim and Hindu women. Education shows a positive association with women's autonomy in decision-making ($p=0.000$). Here it is found that with increasing education levels, women are found to be more autonomous in decision-making compared to those who have primary or secondary or no formal education. There is a negative relationship between the increasing number of living children and women's autonomy in decision-making. Women with 1 child are more likely to participate in decision-making in all three outcome measures than women who have more than 5 children. The occupational status of the women shows a significant relationship with the three outcome measures ($p=0.000$). Employed women are more likely to participate in health care decision-making, large household purchases and the decision to visit their family or friends than those who are not employed. Interestingly it is found that the wealth quintile is positively associated with the women's ability to take part in the decision-making process like health care, large household purchases and a visit to family or friends ($p=0.000$). With increasing wealth status, autonomy in decision-making also increased and the richest women are more likely to be autonomous than

the poorest women. Compared to all other regions, the likelihood of autonomy in decision-making like health care, large household purchases and a visit to family or friends is high among the women who are from the northeastern region ($p=0.000$).

Table 4 shows the percentage (weighted) distribution of women's physical movement (15-49 years) by various socioeconomic characteristics. It is observed that age and women's autonomy regarding physical movement are positively associated ($p = 0.000$). The women aged 35-49 years are found to be more autonomous in physical movement like visiting the market, receiving health facilities and visiting outside of the village than the younger women. Rural women are less likely to have autonomy in physical movement in all three outcome measures than the women from urban counterparts ($p=0.000$). Women of other religions are more likely to have autonomy compared to Muslim and Hindu women. Education shows a positive association with women's autonomy regarding physical movement ($p=0.000$). As far as increasing education level, women are found to be more autonomous compared to those who have primary or secondary or no formal education. It is observed that women who have 2 children are more likely to have autonomy regarding visiting the market and receiving health facilities. In contrast, women with 5+ children have more autonomy to visit outside of the village compared to others. The occupational status of the women shows a significant relationship with the three outcome measures ($p=0.000$). Employed women are more likely to visit the market, receive health facilities and visit outside of the village than those who were not employed. The wealth quintile is also positively associated with women's autonomy in physical movement ($p=0.000$). The richest women are more likely to be autonomous than the poorest women. Women from northeastern regions are more likely to have autonomy in decision-making regarding physical movement in all three outcome measures ($p=0.000$).

Table 3. Descriptive statistics and proportion of women in decision-making with various socioeconomic characteristics

Variables	Frequency (Percentage)	Decision on healthcare		Large household purchase		Decision on visiting family or friends	
		Respondent alone or Jointly	P- Value	Respondent alone or Jointly	P- Value	Respondent alone or Jointly	P- Value
Age of the women in years							
15-24	11943(34.34)	69.83	0.000	66.39	0.000	68.32	0.000
25-34	22512 (57.39)	73.38		71.04		71.94	
35-49	3883(8.27)	76		74.5		73.55	
Place of residence							
Urban	9383(28.54)	74.11	0.0000	72.92	0.000	74.59	0.000
Rural	28955(71.46)	72.03		68.98		70.04	
Religion							
Hindu	27699(78.73)	71.33	0.000	68.72	0.000	69.74	0.000
Muslim	6360(16.56)	68.99		66.49		67.2	
Christian	3853(4.13)	85.54		83.05		86.3	
Others	426(0.59)	86.62		82.39		85.68	
Level of education							
No education	11250(28.16)	67.58	0.000	65.32	0.000	65.17	0.000
Primary	5385(13.32)	71.42		69.47		70.27	
Secondary	17842(47.27)	74.26		71.05		73	
Higher	3861(11.24)	80.57		78.94		81.3	
Number of living children							
1	9755(26.51)	73.38	0.060	70.4	0.613	72.06	0.000
2	14650(40.12)	72.99		69.95		71.62	
3	7632(18.97)	71.76		69.51		70.3	
4	3489(8.19)	71.65		70.22		70.97	
More than 5	2812(6.20)	70.48		69.13		68.21	
Occupational status							
Non-working	31810(83.67)	71.69	0.000	69.32	0.000	70.57	0.000
Working	6528(16.33)	76.67		72.96		74.02	
Wealth Quintile							
Poorest	9338(23.64)	70.55	0.000	67.65	0.000	67.35	0.000
Poorer	8849(21.71)	71		69.13		70.35	
Middle	7872(20.64)	72.6		70.66		71.81	
Richer	6588(18.21)	73.63		70.78		72.78	
Richest	5641(15.80)	76.9		73.07		75.94	
Region							
North	7850(13.27)	72.1	0.000	66.27	0.000	69.39	0.000
Central	10496(25.81)	70.16		68.12		67.79	
East	7578(24.48)	70.45		68.91		67.29	
North East	4979(03.35)	83.81		82.97		84.72	
West	3226(13.69)	73.22		67.95		73.9	
South	4209(19.41)	69.19		69.33		71.68	

Table 4. Descriptive statistics and proportion of women by physical movements and various socioeconomic characteristics

Variables	Frequency (Percentage)	Visiting market		Health facility		Visiting outside of the village	
		Alone or with someone	P-Value	Alone or with someone	P-Value	Alone or with someone	P-Value
Age of the women in years							
15-24	11943(34.34)	86.63		91.1		87.05	
25-34	22512 (57.39)	90.2		93.24		90.2	
35-49	3883(8.27)	91.92	0.000	94.41	0.000	92.76	0.000
Place of residence							
Urban	9383(28.54)	91.6		94.07		91.23	
Rural	28955(71.46)	88.5	0.000	92.24	0.000	88.91	0.000
Religion							
Hindu	27699(78.73)	88.82		92.21		88.45	
Muslim	6360(16.56)	87.19		91.95		89.86	
Christian	3853(4.13)	94.96		96.76		95.25	
Others	426(0.59)	97.65	0.000	97.65	0.000	98.36	0.000
Level of education							
No education	11250(28.16)	88.2		91.53		88.27	
Primary	5385(13.32)	89.95		93.18		90.4	
Secondary	17842(47.27)	88.89		92.74		89.48	
Higher	3861(11.24)	93.11	0.000	95.13	0.000	91.71	0.000
Number of living children							
1	9755(26.51)	88.44		92.17		88.81	
2	14650(40.12)	89.69		93.17		89.61	
3	7632(18.97)	89.41		92.52		89.41	
4	3489(8.19)	89.6		92.58		90.26	
More than 5	2812(6.20)	89.05	0.030	92.53	0.050	90.33	0.050
Occupational status							
Non-working	31810(83.67)	88.89		92.03		88.95	
Working	6528(16.33)	91.05	0.000	93.93	0.000	92.03	0.000
Wealth Quintile							
Poorest	9338(23.64)	87		91.16		87.65	
Poorer	8849(21.71)	88.16		92.54		89.23	
Middle	7872(20.64)	90		92.99		90.04	
Richer	6588(18.21)	90.51		93.03		89.86	
Richest	5641(15.80)	92.25	0.000	94.63	0.000	91.67	0.000
Region							
North	7850(13.27)	94.75		95.38		93.29	
Central	10496(25.81)	86.9		90.85		87.3	
East	7578(24.48)	85.35		90.31		84.78	
North East	4979(03.35)	94.96		96.99		95.84	
West	3226(13.69)	91.79		94.45		92.03	
South	4209(19.41)	83.27	0.000	90.07	0.000	86.77	0.000

Table 5 depicts the result of unadjusted and adjusted logistic regression analysis assessing the factors associated with different socioeconomic characteristics and women's decision-making autonomy. The result shows that age has a positive relationship with women's decision-making autonomy. The older women (35-49 years) are more likely to participate in health care decisions [UOR 1.367, 95% CI: 1.258-1.486, $p < 0.001$] [AOR 1.403, 95% CI: 1.271-1.548, $p < 0.001$], large household purchase [UOR 1.795, 95% CI: 1.362-1.604, $p < 0.001$] [AOR 1.479, 95% CI: 1.344-1.627, $p < 0.001$] and decision on visiting family or friends [UOR 1.417, 95% CI: 1.305-1.539, $p < 0.001$] [AOR 1.458, 95% CI: 1.321-1.608, $p < 0.001$] compared to the younger women. Place of residence also plays a significant role in decision-making autonomy among women. The women who live in rural areas are less likely to be autonomous in deciding on health care, large household purchases and visiting family or friends than the women from urban counterparts. Women from Muslim communities are found a lower level of autonomy than others. Higher-educated women are more likely to participate in decision-making in all three outcome measures and freedom of movement-related outcomes. The more children women have, the less likely they participate in deciding on health care, large household purchases and the decision on visiting their family or friends. Employed women are more likely to make decisions on health care [UOR 1.29, 95% CI: 1.219-1.381, $p < 0.001$] [AOR 1.252, 95% CI: 1.175-1.336, $p < 0.001$] and other decisions. Women who belong to richer households participated more in basic decision-making. Women from the northeastern region are more likely to be autonomous in deciding on health care, large household purchases and visiting family or friends compared to other regions.

Table 6 represents the result of the unadjusted and adjusted logistic regression analysis assessing the factors associated with different socioeconomic characteristics and women's physical movement-related autonomy. The result shows that age has a positive relationship with women's physical movement-related autonomy. The older women (35-49 years) are more likely to have the autonomy to visit the market, go to health facilities and visit outside of the village than the younger women. Place of residence also plays a significant role in decision-making autonomy regarding physical movement among women. The women from the rural areas have limited autonomy related to physical movement like visiting the market, going to health facilities and visiting outside of the village compared to the women who were urban counterparts. Muslim women have

enjoyed less autonomy compared to others. Higher educated women are more likely to participate in decision-making in all three outcome measures i.e. visiting market [UOR 1.807, 95% CI: 1.575-2.072, $p < 0.001$] [AOR 1.432, 95% CI: 1.216-1.687, $p < 0.001$], going for health facility [UOR 1.808, 95% CI: 1.539-2.123, $p < 0.001$] [AOR 1.541, 95% CI: 1.272-1.867, $p < 0.001$] and visiting outside of village [UOR 1.471, 95% CI: 1.294-1.671, $p < 0.001$] [AOR 1.308, 95% CI: 1.119-1.523, $p < 0.001$]. The more children women have, the less likely they participate in making decisions on physical movement like visiting the market [UOR 1.063, 95% CI: 0.930-1.214] [AOR 0.940, 95% CI: 0.798-1.106], going for health facility and visiting outside of the village. Employed women are more likely to have autonomy whether visiting the market, going to the health facility, or visiting outside of the village compared to unemployed women. The richest women are more likely to take their own decision to visit market [UOR 1.778, 95% CI: 1.585-1.994, $p < 0.001$], go to health facility [UOR 1.701, 95% CI: 1.491-1.957, $p < 0.001$] [AOR 1.078, 95% CI: 0.901-1.291] and visit outside of village [UOR 1.549, 95% CI: 1.384-1.734, $p < 0.001$]. Women from the north-eastern region are more likely to be autonomous in deciding on visiting the market [UOR 1.043, 95% CI: 0.888-1.225], going to a health facility [UOR 1.561, 95% CI: 1.286-1.894, $p < 0.001$] [AOR 1.329, 95% CI: 0.075-1.642, $p < 0.001$] and visiting outside of village compared to all other regions.

Table 5. Unadjusted and adjusted logistic regression analysis assessing the factors associated with different socioeconomic characteristics and women's decision-making autonomy

Variables	Decision on healthcare		Large household purchase		Decision on visiting family or friends	
	Crude	Adjusted	Crude	Adjusted	Crude	Adjusted
Age of the women in years						
15-24	®	®	®	®	®	®
25-34	1.19*** (1.133-1.25)	1.198*** (1.13-1.266)	1.107*** (1.183-1.301)	1.242*** (1.177-1.310)	1.882*** (1.132-1.247)	1.184*** (1.122-1.250)
35-49	1.367*** (1.258-1.486)	1.403*** (1.271-1.548)	1.795*** (1.362-1.604)	1.479*** (1.344-1.627)	1.417*** (1.305-1.539)	1.458*** (1.321-1.608)
Place of residence						
Urban	®	®	®	®	®	®
Rural	0.899*** (0.853-0.948)	0.968 (0.911-1.029)	0.825*** (0.784-0.869)	0.868*** (0.817-0.922)	0.796*** (0.755-0.839)	0.870*** (0.819-0.925)
Religion						
Hindu	®	®	®	®	®	®
Muslim	0.894*** (0.843-0.949)	0.918** (0.863-0.977)	0.903*** (0.852-0.957)	0.915*** (0.862-0.973)	0.889*** (0.838-0.942)	0.900*** (0.846-0.957)
Christian	2.378*** (2.166-2.611)	1.707*** (1.533-1.900)	2.231*** (2.042-2.435)	1.547*** (1.398-1.712)	2.733*** (2.484-3.006)	1.837*** (1.648-2.048)
Others	2.602*** (1.966-3.443)	2.062*** (1.549-2.74)	2.130*** (1.657-2.736)	1.572*** (1.216-2.032)	2.597*** (1.977 -3.409)	2.076*** (1.571-2.744)
Level of education						
No education	®	®	®	®	®	®
Primary	1.198*** (0.843-0.949)	1.165*** (1.083-1.255)	1.207*** (1.126-1.295)	1.174*** (1.092-1.263)	1.263*** (1.177-1.354)	1.184*** (1.100-1.275)
Secondary	1.384*** (2.166-2.611)	1.38*** (1.296-1.470)	1.301*** (1.238-1.370)	1.299 (1.222-1.382)	1.445*** (1.373-1.520)	1.368*** (1.285-1.456)
Higher	1.989*** (1.966-3.443)	1.921*** (1.725-2.141)	1.990*** (1.825-2.170)	1.973*** (1.777-2.192)	2.323*** (2.123-2.541)	2.173*** (1.951-2.422)
Number of living children						
1	®	®	®	®	®	®
	0.98 (0.925-1.038)	1.009 (0.950-1.072)	0.978 (0.925-1.034)	1.004 (0.946-1.064)	0.978 (0.924-1.035)	1.022 (0.963-1.086)
2	0.922*** (0.862-0.986)	0.962 (0.893-1.037)	0.958 (0.897-1.022)	0.983 (0.914-1.058)	0.918*** (0.859-0.980)	0.996 (0.925-1.073)
3						
4	0.917***	0.957	0.991	1.007	0.947	1.044

	(0.841-0.999)	(0.868-1.055)	(0.910-1.078)	(0.915-1.108)	(0.870-1.032)	(0.947-1.151)
	0.866***	0.855***	0.941	0.900*	0.832***	0.859***
More than 5	(0.789 -0.950)	(0.764-0.958)	(0.859-1.031)	(0.806-1.001)	(0.759-0.911)	(0.769-0.961)
Occupational status						
Non-working	®	®	®	®	®	®
Working	1.29***	1.252***	1.194***	1.140***	1.188***	1.128***
	(1.219-1.381)	(1.175-1.336)	(1.125-1.267)	(1.071-1.212)	(1.118-1.262)	(1.060-1.202)
Wealth Quintile						
Poorest	®	®	®	®	®	®
Poorer	1.022	0.924**	1.071***	0.990	1.149***	1.003
	(0.958-1.089)	(0.864-0.988)	(1.005-1.139)	(0.927-1.058)	(1.079-1.224)	(0.939-1.073)
Middle	1.106***	0.963	1.151***	1.038	1.235***	1.01
	(1.034-1.182)	(0.893-1.039)	(1.078-1.228)	(0.963-1.117)	(1.156-1.318)	(0.936-1.086)
Richer	1.166***	0.957	1.158***	0.972	1.296***	0.963
	(1.086-1.251)	(0.878-1.044)	(1.081-1.240)	(0.89-1.057)	(1.209-1.389)	(0.884-1.048)
Richest	1.389***	1.006	1.297***	0.955	1.53	0.971
	(1.287-1.499)	(0.907-1.115)	(1.206-1.395)	(0.865-1.055)	(1.420-1.649)	(0.878-1.075)
Region						
North	®	®	®	®	®	®
Central	0.909***	0.981	1.087***	1.162***		1.002
	(0.852-0.970)	(0.916-1.050)	(1.022-1.157)	(1.088-1.241)	0.928***	(0.938-1.072)
East	0.923***	1.009	1.128***	1.238***	0.907***	0.998
	(0.860-0.989)	(0.936)	(1.054-1.207)	(1.151-1.333)	(0.847-0.971)	(0.927-1.075)
North East	2.003***	1.561***	2.479***	2.012***	2.445***	1.850***
	(1.830-2.192)	(1.411-1.729)	(2.272 -2.706)	(1.823-2.221)	(2.232-2.677)	(1.671-2.049)
West	1.057	1.031	1.079**	1.056	1.249***	1.217***
	(0.964-1.159)	(0.938-1.134)	(0.988-1.177)	(0.965-1.156)	(1.139-1.369)	(1.107-1.338)
South	0.868***	0.789***	1.150***	1.049	1.116***	1.004
	(0.800-0.942)	(0.725-0.861)	(1.061-1.247)	(0.965-1.141)	(1.028-1.212)	(0.921-1.093)

Data is presented as odds ratio (OR) [95% confidence interval] ***p <0.01, **p <0.05, *P <0.10, ® = Reference category.

Table 6. Unadjusted and adjusted logistic regression analysis assessing the factors associated with different socioeconomic characteristics and women's physical movement-related autonomy

	Visiting market		Go for a health facility		visiting outside of the village	
	Crude	Adjusted	Crude	Adjusted	Crude	Adjusted
Age of the women in years						
15-24	®	®	®	®	®	®
25-34	1.420*** (1.326-1.521)	1.301*** (1.203-1.406)	1.348*** (1.242-1.462)	1.283*** (1.170-1.407)	1.368*** (1.276-1.466)	1.289*** (1.192-1.393)
35-49	1.754*** (1.545-1.991)	1.603*** (1.380-1.862)	1.655*** (1.421-1.921)	1.572*** (1.317-1.875)	1.906*** (1.669-2.176)	1.714*** (1.469-1.999)
Place of residence						
Urban	®	®	®	®	®	®
Rural	0.705*** (0.650-0.765)	0.706*** (0.642-0.775)	0.748*** (0.679-0.823)	0.765*** (0.686-0.855)	0.771*** (0.711-0.835)	0.787*** (0.718-0.864)
Religion						
Hindu	®	®	®	®	®	®
Muslim	0.856*** (0.788-0.930)	0.693*** (0.635-0.757)	0.965 (0.872-1.066)	0.843*** (0.758-0.936)	1.156*** (2.247-3.051)	1.011 (0.920-1.110)
Christian	2.375*** (2.046-2.757)	1.299*** (1.096-1.541)	2.518*** (2.096-3.026)	1.360*** (1.106-1.673)	2.618*** (2.247-3.051)	1.369*** (1.151-1.623)
Others	5.238*** (2.794-9.819)	4.452*** (2.363-8.389)	3.513*** (1.873-6.587)	2.800*** (1.488-5.284)	7.815*** (3.699-16.51015)	6.560*** (3.091-13.92)
Level of education						
No education	®	®	®	®	®	®
Primary	1.197*** (1.077-1.331)	1.092 (0.977-1.219)	1.265*** (1.116-1.434)	1.171** (1.028-1.334)	1.252*** (1.124-1.393)	1.173*** (1.049-1.312)
Secondary	1.069*** (0.993-1.151)	0.961 (0.878-1.053)	1.182*** (1.082-1.289)	1.098* (0.987-1.222)	1.131*** (1.049-1.218)	1.087* (0.993-1.191)
Higher	1.807*** (1.575-2.072)	1.432*** (1.216-1.687)	1.808*** (1.539-2.123)	1.541*** (1.272-1.867)	1.471*** (1.294-1.671)	1.308*** (1.119-1.523)
Number of living children						
1	®	®	®	®	®	®
	1.138*** (1.048-1.234)	1.145*** (1.051-1.248)	1.159** (1.051-1.279)	1.169*** (1.056-1.294)	1.087** (1.001-1.180)	1.068 (0.979-1.164)
2	1.104** (1.003-1.215)	1.085 (0.974-1.201)	1.051 (0.938-1.176)	1.039 (0.914-1.178)	1.065 (0.966-1.172)	1.006 (0.904-1.121)
3	1.126** (0.993-1.276)	1.069 (0.927-1.232)	1.059 (0.915-1.226)	1.025 (0.868-1.210)	1.167** (1.026-1.327)	1.064 (0.921-1.2310)
4	1.063 (0.930-1.214)	0.940 (0.798-1.106)	1.053 (0.898-1.234)	0.946 (0.780-1.147)	1.177** (1.023-1.353)	0.948 (0.801-1.1230)
More than 5						

Occupational status						
Non-working	®	®	®	®	®	®
Working	1.27*** (1.160-1.394)	1.221*** (1.111-1.342)	1.268*** (1.136-1.415)	1.218*** (1.089-1.364)	1.437*** (1.303-1.579)	1.358*** (1.231-1.498)
Wealth Quintile						
Poorest	®	®	®	®	®	®
Poorer	1.112** (1.017-1.214)	1.019 (0.928-1.119)	1.203*** (1.081-1.338)	1.060 (0.947-1.186)	1.167*** (1.065-1.278)	1.007 (0.915-1.109)
Middle	1.344*** (1.222-1.478)	1.210*** (1.086-1.349)	1.286*** (1.149-1.438)	1.076 (0.947-1.223)	1.273*** (1.156-1.401)	1.037 (0.929-1.157)
Richer	1.425*** (1.286-1.578)	1.188*** (1.048-1.347)	1.295*** (1.150-1.458)	0.994 (0.859-1.150)	1.248*** (1.128-1.380)	0.930 (0.823-1.053)
Richest	1.778*** (1.585-1.994)	1.158** (0.994-1.348)	1.701*** (1.491-1.957)	1.078 (0.901-1.291)	1.549*** (1.384-1.734)	0.985 (0.846-1.145)
Region						
North	®	®	®	®	®	®
Central	0.367*** (0.327-0.411)	0.374*** (0.332-0.421)	0.482*** (0.425-0.545)	0.497*** (0.437-0.566)	0.495*** (0.445-0.549)	0.507*** (0.455-0.566)
East	0.322*** (0.286-0.363)	0.349*** (0.308-0.396)	0.452*** (0.396-0.514)	0.488*** (0.424-0.561)	0.401*** (0.359-0.446)	0.419*** (0.373-0.471)
North East	1.043 (0.888-1.225)	0.920 (0.493-1.097)	1.561*** (1.286-1.894)	1.329*** (1.075-1.642)	1.659*** (1.406-1.956)	1.359*** (1.135-1.628)
West	0.619*** (0.527-0.726)	0.580*** (0.493-0.683)	0.825** (0.686-0.991)	0.793** (0.658-0.957)	0.832*** (0.711-0.970)	0.820** (0.701-0.961)
South	0.276*** (0.242-0.313)	0.243*** (0.213-0.2778)	0.439*** (0.380-0.508)	0.402*** (0.346-0.467)	0.472*** (0.416-0.534)	0.453*** (0.398-0.516)

Data is presented as odds ratio (OR) [95% confidence interval] ***p <0.01, **p <0.05, *P <0.10, ® = Reference category.

4 DISCUSSION

In this research work, we have tried to find out how various socioeconomic factors play an important role in women's autonomy. At first, we have seen that with the increasing age of women, higher levels of autonomy have been seen among women. The result of cross-tabulation and bivariate and multivariate analyses suggest a similar result. One of the studies in Nepal showed a similar kind of outcome (Acharya et al., 2010). A multi-country study in India, Bangladesh and Nepal also indicates that women in higher age groups are more likely to participate decision making (Senarath and Gunawardena, 2009). Even a study in Bangladesh also indicates that women's age is a very important factor, as with the increasing age of women they can enjoy more autonomy and empowerment (Tareque, 2011). Women with increasing age have fewer security issues and demand for fulfillment and also lost contact with their natal kin. It makes women independent in their decisions (Weerasinghe, 2005). Apart from the age of women, their place of residence also plays an important role in their decision-making capacity. Our study indicates that women from rural areas have less level of autonomy. This finding is indicating similar results with this previous work (Tareque, 2011; Woldemicael, 2010). Place of residence is widely taken as an important parameter of the decision-making of women, as many pre-existing conditions in rural areas induce poverty and access to resources. All these things are related to the poor decision-making capacity of a woman. Many studies conducted in South Asian countries also indicate similar kinds of outcomes (Acharya et al., 2010; Senarath and Gunawardena, 2009; Young, 1999).

An interesting thing has been found in the study that a woman from the Muslim community enjoys less autonomy in decision-making compared to women who belong to other religious groups. A cross-sectional study between Muslim and non-Muslims found that Muslim women had less autonomy, which resulted in a higher rate of fertility among Muslims (Morgan et al., 2002). The level of education of women is a very important indicator for the enhancement of women's autonomy. It is always found that women's higher level of education makes them more empowered. With increasing their level of education, they participated more in household decision-making. Similar evidence has been found in a multi-country in South America (Peru, Nicaragua, Bolivia), where it found that the education of women is an important indicator for the enhancement of women's autonomy (Heaton et al., 2005). It also enhances their freedom of movement. Studies conducted in South Asia stated that if women were educated they enjoyed more autonomy in their decisions (Acharya et al., 2010; Tareque, 2011). A comparative analysis between Eritrea and Ethiopia implies in both countries educated women have more autonomy in their household decision-making

(Woldemicael, 2010). Interestingly we came to know in our study those women who have more living children have less autonomy in household decision-making but in some cases, women have more physical movement related if they have more living children. But another study made in Nepal stated that if women have more living children then they have more autonomy in their decisions (Acharya et al., 2010; Senarath and Gunawardena, 2009).

As to the expectation of women who are working, they enjoy more autonomy in family decisions and movement compared to non-working women. A study conducted in rural areas in India mentioned that women in South India have more autonomy than the Northern part, because of their higher education and employment (Singh, 2010). Studies stated that women engaged in paid work apart from household work have more autonomy rest of the non-working women (Acharya et al., 2010; Becker et al., 2006; Heaton et al., 2005; Woldemicael, 2010). A study in three South Asian countries stated that women who earn cash have a strong opinion on household decisions (Schwefel, 1986; Senarath and Gunawardena, 2009). The study implies that the wealth quintile has a strong impact on the empowerment outcomes of women. Women from richer and richer households have a higher occupancy of empowered women than poor women. Evidence from multi-country analyses revealed that women from the less-income group countries have a lower level of autonomy in comparison with the high-income group countries (Osamor and Grady, 2016). An India-level study based on National Family Health Survey-2 found that women from higher livelihood families in India have more decision-making capacity than other women (Gupta and Yesudian, 2006). Even a demographic study conducted in Nepal also suggested that women from richer households have more autonomy than those from poor households (Acharya et al., 2010). A very recent study conducted in Senegal related that women's autonomy in family planning had similar outcomes, as women from the rich and richer households have more decision-making autonomy (Sougou et al., 2020).

5 CONCLUSION

In the literature section, we come to know that women's autonomy is a multi-dimensional aspect, which is indicated by their various decision-making and physical movement-related aspects. We also come to know that the various aspects of women's autonomy are also largely influenced by the various socioeconomic aspects, such as their age, level of education, place of residence, occupational status and wealth status of the household. Our study also got a similar outcome. The age of the women is a vital factor in the enhancement of decision-making autonomy and freedom of movement for women. Among the other variables, their level of education

also plays a critical role in the improvement of women's status. Especially those women who are employed have more participation in decision-making. Also, these results validate a statistically significant association. Among other socioeconomic factors, their wealth status and place of residence influence the autonomy outcomes of the women. As per the results of the study and the supporting results it is clear to us that these socioeconomic aspects need to be taken very carefully by the policy makers. Among the socioeconomic variables, women's level of education needs to be increased by proper policies so that it induces their level of autonomy. At the same time if women engage in any employment then also it will be helpful for the enhancement of their autonomy. Finally, women from the wealthy family have a higher level of autonomy so it is clear to us that if somehow we enhance the overall economic profile of the household, then it is possible to make women more autonomous. By this, we can deal with other social problems like child marriage, maternal mortality, child health and nutritional outcomes. By knowing the importance of these issues United Nations places gender equality and women empowerment as their major goals to achieve. So policymakers need to give more focus on the enhancement of women's autonomy.

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ABBREVIATIONS

AOR: Adjusted Odds Ratio; **IIPS:** International Institution of Population Sciences; **MOHFW:** Ministry of Health and Family Welfare; **NFHS:** National Family Health Survey; **OR:** Odds Ratio; **UOR:** Unadjusted Odds Ratio.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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