

FIRST DRAFT

Spouses' Agreement on Women's Autonomy in Rural Bangladesh and Its Influence on Health Outcomes

Chinyelum Morah and Stan Becker

Abstract

The study explored spousal agreement on women's decision-making power in four areas (household resources, freedom of mobility, childcare, and family planning) and its relationship to four health outcomes (antenatal care, treatment of sick children by trained health providers, vitamin A receipt, and unwanted/mistimed pregnancies). The sample consisted of 512 rural Bangladeshi couples selected by stratified random sampling. Levels of agreement ranged from 59% (mobility) to 88% (childcare). Relative to wives, husbands overestimated wives' say in childcare and family planning, and underestimated say in household resources and mobility. Husbands ascribed less importance to microcredit participation and wives' paid employment as determinants of autonomy. A significant negative association was found between women's autonomy and antenatal care. When couples agreed, the relationship between autonomy and healthcare outcomes was similar to reports from wives' surveys. Among divergent couples, wives' reports were closer to those of convergent couples than were husbands'. Results strongly supported that wives' survey responses were more reliable than their husbands'.

Introduction and Background

Women's autonomy – their power to make their own decisions – is associated with numerous health and demographic outcomes. Women's say in decisions about household purchases has been linked to contraceptive use, and their decision-making ability,

freedom of mobility, and financial autonomy has been linked to use of delivery, pre-, and post-natal care (Woldemicael, 2009; Mistry et al., 2009). Increased female control over household financial resources is associated with higher expenditure on children's health and nutrition, and children of mothers with greater control over finances have shown significantly less growth stunting (Thomas, 1993; Doan et al., 2002; Shroff, 2009).

Measurement of women's decision-making power, however, can be complex. One concern is whether questions regarding household decision-making should be asked of women alone, as is traditionally the case, or should also involve their husbands. Survey responses might also be subject to social desirability bias. Ambiguous questions may influence respondents to default to culturally norms. Another complication is whether autonomy should be defined as lone or joint decision-making. While some researchers have found that lone decision-making power provides clearer and more significant associations with health care use, others have suggested that joint decision-making indicates greater egalitarianism, improved spousal communication, and greater spousal support, and is preferred by women (Allendorf, 2007; Kabeer, 2001; Mullany et al., 2005).

This study explores the convergence and divergence of husband and wife reports on women's decision-making power in four areas – household resources and purchases, freedom of work and mobility, childcare, and family planning – and the relationship between these reports and four health outcomes: antenatal care receipt, treatment of sick children by trained health professionals, receipt of vitamin A within 6 months of

childbirth, and experience of unwanted or mistimed pregnancies. The conceptual framework in Figure 1 illustrates pathways through which socioeconomic and cultural factors can influence women’s decision-making power, inter-spousal agreement on women’s autonomy, and health outcomes.

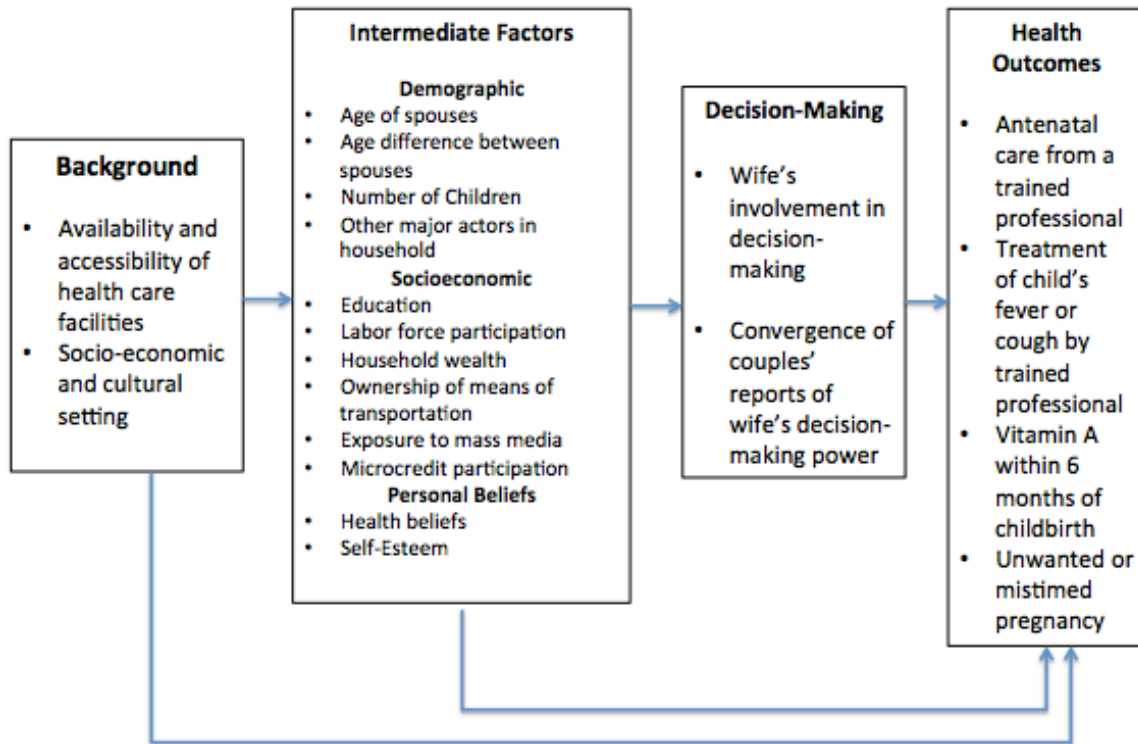


Figure 1. Determinants of decision-making power and health outcomes within a household: a conceptual framework.

Four previous studies have explored the relationship between couples’ reports of women’s decision-making power and health outcomes. Ghuman (2006) studied couples in twenty-three communities in five Asian couples, exploring the relationship between agreement and only one health outcome – child mortality – in detail. Ghuman, along with Becker (2005) and Jejeebhoy (2002), who studied populations in rural Guatemala and India, respectively, did not explore the distinctions between male and female

determinants of autonomy or the interaction between males and female responses. Allendorf (2007), who explored agreement on autonomy among couples in Nepal, provided this more extensive analysis, but used very few indicators of autonomy – decisions regarding large and small household purchases and decisions regarding what to do when the wife herself is ill – neglecting indicators such as mobility, ability to work outside the home, or ability to make decisions regarding children, indicators which are commonly used in similar studies and have been shown to exert influence on health care utilization. For example, women with more freedom to travel have been shown to access antenatal care services more frequently and are exposed to more information, which influences their health indirectly (Mumtaz, 200f; Bloom et al., 2005; Cleland et al., 1996). This study both utilizes a wide variety of indicators of autonomy while providing an analysis of the effect of gender interaction on final relationships.

Methods

The data for this study was derived from a “baseline” sample household survey intended to explore the effects of introducing additional microcredit and essential health services on the economic wellbeing, health service utilization, and empowerment of women in rural Bangladesh.

Twenty-four villages with relatively low microcredit participation rates of under 40 to 50 percent, and with government-provided health care programs only, were selected from outside the catchment areas of each of sixteen Grameen Health Centers located in three of Bangladesh’s six divisions. Of these twenty-four villages, two sets of four villages with the lowest microcredit participation, located in opposite directions from the Health

Centers, were selected for the survey, resulting in 128 villages total (16 times 8). An enumeration of all villages categorized households into three strata: those ineligible for microcredit, those eligible who had not accessed microcredit, and those who were eligible and had accessed microcredit. A random sample of 4, 12, and 15 households were selected from each stratum, respectively. The overall sample included 3,498 currently married women in 3,998 households of 4,381 sampled, a response rate of 91.3%. The subsample used in this study consists of 512 households in which both husbands and their wives were available to complete separate interviews. Four husbands were interviewed per village. Surveys were conducted by trained interviewers recruited by a professional survey agency. The Johns Hopkins School of Public Health Institutional Review Board and the Bangladesh Medical Council approved the study.

Spouses were separately asked to report on which members of the households participated in making each of nine decisions:

1. Purchasing furniture
2. Purchasing cows or goats
3. Spending family savings
4. Taking out loans
5. What to do when a child was sick
6. Whether the wife was allowed to work outside the home
7. Whether the wife was allowed to visit her father's house
8. Whether to use family planning
9. Whether to have more children

Possible response categories included oneself, one's spouse, any mother- or father-in-laws present, or another household member. If family members were said to partake in decision-making, respondents were then asked to rank the importance of each participant's say in the final decision.

There were four primary outcomes of interest: the use of antenatal care from trained health professionals, the receipt of vitamin A supplementation for newborns within the first six months of life, taking children to see trained professionals if they exhibited a fever or cough, and the experience of unwanted or mistimed pregnancies.

Other variables of interest included demographic variables such as age of both members of the couple, parity, educational background, household wealth (elucidate), microcredit participation, wives' employment, ownership of means of transportation, media exposure, distance to closest health facilities, and self-esteem. Household wealth was indicated by an index based on ownership of durable goods, materials used in home construction, size of home, and water and sanitation facilities. Self-esteem was based on a score derived from how many of six situations a wife believed that a husband was justified in beating his spouse.

The study attempted to answer four questions:

1. Do levels of women's decision-making, and levels of *agreement* on women's decision-making between couples, vary across four areas of interest (decisions regarding household resources, freedom of mobility, care of sick children, and family planning)?
2. Are women equally as likely to over- or under-estimate their autonomy relative to their husbands' reports?
3. Do the determinants of decision-making power vary by husbands' or wives' reports?
4. Are health outcomes related to husbands' or wives' reports of decision-making, or the convergence and divergence of spouses' reports?

To answer the first question, the nine decision-making variables were categorized into four groups – decisions regarding household resources (questions 1 to 4), childcare (question 5), freedom of mobility (questions 6 and 7), and family planning (questions 8 and 9). For each spouse, the rank of importance of the wife's say was categorized as first or second, third or fourth, or less than fourth or no say at all. The responses of each husband and wife pair were then cross-tabulated to display both levels of women's decision-making and levels of agreement, and kappa scores were calculated.

Among those couples who disagreed, chi square goodness of fit tests were performed to determine if women were equally likely to over- or under-estimate their say in decision-making relative to their husbands, addressing question two.

To address the third question about determinants of autonomy and how they might vary by gender, a bivariate analysis was performed to assess the relationship between covariates of interest and autonomy according to husbands' reports, wives' reports, and the reports of all couples with convergent responses. Chi-square tests were performed to determine if husband and wife responses differed significantly on particular covariates.

To address question 4 – how various healthcare outcomes varied depending on women's autonomy – first a bivariate analyses was performed to assess any determinants of healthcare utilization among the covariates, and then effects of autonomy (according to various reports) on outcomes was determined via logistic regression, adjusting for any covariates found to be significant in the bivariate analyses. For both bivariate and logistic analyses, a woman was defined as autonomous if she had a say in a particular decision *and* if her say was ranked as being either the first or second most important.

Results

Table 1 provides some descriptive statistics of the sample. Wives were on average 33.5 years old, almost a decade younger than their husbands, who average 43.1 years of age. Couples had an average of 4 children each. Either the husbands or wives' parents were present in 13% of all households. Over half of all husbands and over half of wives had never completed primary school. Almost half of all wives reported regular exposure to radio, television, or newspapers. Approximately three quarters of the population surveyed lived within a three-mile radius of a government or NGO clinic. Only one-fifth of all couples owned any means of transportation, including bicycles. The population was 96%

Muslim. Only a minority of women (30%) believed that a husband was not justified in beating his wife in any of the six situations surveyed.

Table 1. Descriptive statistics for selected covariates and healthcare outcomes

Demographic statistics, all couples (n=512)

	<i>means</i>
Children ever born	4.0
Age of wife	33.5
Age of husband	43.1
	<i>n(%)</i>
Age difference (husband – wife)	
> 6 years	26.0
6-10 years	37.8
>10 years	36.1
Highest education level completed (wife)	
Less than primary	53.5
Primary	27.3
Secondary	17.4
Higher	1.8
Highest education level completed (husband)	
Less than primary	54.9
Primary	26.8
Secondary	14.5
Higher	3.9
Education of couples	
Neither educated	37.1
One educated	34.2
Both educated	28.7
Household wealth quintile (weighted)	
Poorest 20%	23.2
20-40	26.7
50-60	23.4
60-80	15.8
Richest 20%	10.6
Other important actors in household	
Husband's parents	9.4
Wife's parents	3.5
Either husband's or wife's parents	12.7
Wife works for pay	16.2
Regular exposure to media (at least 1x	

weekly; radio, TV, or newspaper)	
No	44.9
Yes	55.1
Microcredit participation	47.4
Ownership of means of transport (bicycle, motorcycle)	19.9
Government or NGO Clinic within 3 miles	77.3
Religion	
Muslim	96.1
Other	3.9
Belief that husband is justified in beating wife	
Never	30.5
Sometimes	52.2
Often	17.4

Health Outcomes, selected couples

	<i>n(%)</i>
Antenatal care from trained professional	81 (46.0)
Vitamin A within 6 months of childbirth	122 (70.5)
Care from trained professional for sick child	33(28.4)
Unwanted/mistimed birth	153(34.4)

Table 1 also displays an overview of the health care behavior among the population.

Less than half of all couples had sought antenatal care from trained professionals after birth (46%), while the majority (71%) had received vitamin A for their infants within six months of childbirth. Only 28% reported seeking care from a professional when a child was sick with fever or cough. Approximately a third of couples (34.4%) had ever experienced an unwanted or mistimed pregnancy.

Table 2 displays the levels of agreement between spouses on the importance of women's say in household decisions. Couples agreed that wives had the most say in deciding on treatment for sick children (79.8%), followed by family planning (70.5%) and use of

household resources (66.0%). Wives had the least say in freedom to travel or work outside the home (49.5%). The highest level of agreement was found in family planning (87.8% give the same response), followed by treatment of sick children (85.7%), household resources (76.4%), and mobility (69.5%). Kappa statistics were all positive and significant at the .01 level, ranging from 0.20 (resources) to 0.61 (family planning). The smaller absolute kappa scores for resources indicated that agreement among couples in this measure was not much different than agreement amongst randomly paired individuals.

Table 2. Cross-tabulations of couples' responses to questions about household decision-making (weighted).

Wife has say in decisions regarding purchase and use of household resources				
	Husband's response			
Wife's response:	1 st /2 nd	3 rd /4 th	Other/None	Total
1 st /2 nd	66.0	4.7	8.8	79.5
3 rd /4 th	3.9	2.3	1.4	7.6
Other/none	5.4	1.5	6.1	12.9
Total	75.2	8.5	16.3	100%

Agreement: 76.4%; $\kappa = 0.20^{**}$

Wife has freedom to work outside the home or visit her father's home.				
	Husband's response			
Wife's response:	1 st /2 nd	3 rd /4 th	Other/None	Total
1 st /2 nd	49.6	2.7	12.9	65.3
3 rd /4 th	0.6	1.4	1.4	3.5
Other/none	13.5	1.7	16.1	31.3
Total	63.8	5.9	3.0	100

Percent agreement: 69.5%; $\kappa = 0.33^{**}$

Wife has say in decision regarding what to do if a child is sick.				
	Husband's response			
Wife's response:	1 st /2 nd	3 rd /4 th	Other/None	Total
1 st /2 nd	79.8	0.6	3.6	84.0
3 rd /4 th	4.3	0	1.1	5.4
Other/None	6.7	0.2	3.8	10.6
Total	90.8	0.8	8.4	100

Percent agreement: 85.7%; $\kappa = 0.28^{**}$

Wife has say in decisions regarding family planning.				
Wife's response:	Husband's response			Total
	1 st /2 nd	3 rd /4 th	Other/None	
1 st /2 nd	70.5	0	4.7	75.2
3 rd /4 th	0	0	0	0
Other/None	8.2	0	16.6	24.8
Total	78.6	0	21.4	100

Percent agreement: 87.8%; $\kappa = 0.61^{**}$

Table 3 shows that women tended to overestimate their autonomy in decisions regarding household resources and freedom of mobility, but the results were not significant. They did, however, significantly *underestimate* their autonomy in the areas of treatment for sick children and family planning.

Table 3. Percentage of wives who agree with, overestimate, or underestimate their decision-making power relative to their husbands, in four decision-making areas.

	Household resources	Freedom of mobility	Treatment of sick children	Family planning
Agree	76.4	69.5	85.7	87.8
Over-estimate	12.7	15.3	4.9	4.5
Under-estimate	10.9	15.1	9.3	7.5
<i>p-value</i>	.11	.91	.007**	.003**

* Significant at $p < 0.05$; ** $p < 0.01$.

Table 4 displays the percent of wives who participated in at least eight of nine household decisions, by background characteristics. Eight decisions were chosen because this divided the population roughly in half. Less than a third of respondents participated in seven decisions or less, resulting in small sample size problems during data analysis. The table shows which covariates were significant determinants of autonomy according to couples with convergent responses, men's reports, and women's reports. It also notes the variables by which couples' responses differed significantly.

Among couples with convergent results, covariates significantly associated with autonomy included parity, age of wife and age difference between husband and wife, and microcredit participation. Age of husband, parity, and microcredit participation were significant according to women's reports, but not men's. Men ascribed more importance to the presence of in-laws and less importance to wives' working for pay than did their wives.

Table 4. Percent of wives who participate in more than seven of nine household decisions, by background characteristics.

	Women's responses only	Men's responses only	Convergent couples	Couples responses differ significantly
Children ever born				
0	39*	52	36*	*
1-5	65	59	47	
6+	36	40	24	
Age of wife				
<20	52**	28**	24 **	*
20-40	68	65	53	
>40	31	38	18	
Age of husband				
<30	53*	56	45	
30-50	69	60	49	
>50	29	39	20	
Age difference (husband – wife)				
> 6 years	75*	65*	55*	
6-10 years	46	39	29	
>10 years	52	58	41	
Highest education level completed (wife)				
Less than primary	55	52	41	*
Primary	59	55	43	
Secondary+	50	54	33	
Highest education level completed (husband)				
Less than primary	58	56	42	
Primary	56	56	44	
Secondary+	49	46	31	
Education of couple				
None educated	56	55	40	
One educated	57	51	44	
Both educated	53	54	36	
Household wealth quintile				

(weighted)				
Poorest 20%	53	51	43	
20-40	72	63	57	
50-60	56	62	43	
60-80	55	49	34	
Richest 20%	45	45	31	
Other important actors in household				
No	54	55	41	*
Yes	58	44	32	
Wife works for pay				
no	57	53	40	*
yes	43	54	36	
Regular exposure to media (at least 1x weekly; radio, TV, or newspaper)				
no	52	49	37	
yes	57	56	42	
Microcredit participation				
no	45*	48	30*	
yes	71	63	55	
Ownership of means of transport (bicycle, motorcycle)				
no	55	52	38	
yes	57	57	45	
Justified beating				
Never	55	54	38	
Sometimes	55	52	40	
Often	52	54	43	

* Significant at $p < 0.05$; ** $p < 0.01$.

Not shown in this paper are the relationships between covariates and health outcomes. Receipt of antenatal care was significantly related to number of children ever born, with those with less than five children having received substantially more ANC for recent births than those with six or more (65% vs. 14%). ANC receipt was also associated with younger wives, and wives who were much younger than their husbands, more educated couples, and wealthier couples. Treatment of sick children by a trained professional was significantly associated with having fewer children, with women with 2 to 4 children receiving care considerably more frequently than those with more than four children (and those with only one), with wives working for pay outside the home (37% vs. 7%), and

with a healthcare center being located within a three mile radius (41% vs. 6%). Receipt of vitamin A after pregnancy was not associated with any covariate. The experience of unwanted or mistimed pregnancies was significantly associated with a greater number of children, the presence of other actors (in-laws) in the household, and whether the wife worked outside the home.

Table 5 displays the odds of having experienced specific health outcomes if the woman participated in at least eight of nine household decisions. Higher autonomy was significantly related to decreased use of antenatal care according to all respondents. According to women’s reports, autonomy was closely related to increased seeking of professional care for sick children. Men’s responses showed a positive association between autonomy and vitamin A receipt while women’s responses showed the opposite. Among couples whose responses disagreed, men’s reports linked women’s autonomy to more unwanted pregnancies while women’s reports link them to less. Women’s reports tended to agree more strongly with the reports of couples that provided convergent responses.

Table 5. Odds ratios of relationships between women’s health outcomes and couples’ responses regarding women’s participation in at least six of nine household decisions.

	Antenatal care	Trained professional for sick child	Vitamin A within 6 months of birth	Unwanted or mistimed pregnancy
Woman’s response only				
No	1.00	1.00	1.00	1.00
Yes	0.15*	1.86	0.77	0.49
Man’s response only				
No	1.00	1.00	1.00	1.00
Yes	0.64	1.59	1.28	0.74
Interaction				
Both say no	1.00	1.00	1.00	1.00
Woman alone says yes	0.02**	1.18	0.32	0.58
Man alone says yes	0.08*	0.45	0.51	1.12
Both say yes	0.06**	1.93	0.91	0.48

* Significant at $p < 0.05$; ** $p < 0.01$. Antenatal care is adjusted for age, parity, education, and wealth. Care for sick children is adjusted for parity and employment outside the home. Unwanted or mistimed pregnancies as adjusted for education, parity, in-laws, and employment outside the home.

Discussion

Overall, levels of agreement between husbands and wives' reports found in this study were comparable to those in similar studies. In this study, rates of spousal agreement ranged from 69 to 88%. These levels of agreement were similar to those found by Becker et al. (64 to 77%) and Jejeebhoy (54 to 93%), but were somewhat higher than those found in Allendorf, where agreement on nonfood decisions ranged from 47 to 53%. This might partially be explained by Allendorf's requirements that couples matched on three distinct categories ("wife alone," "wife jointly", or "husband alone"), while Becker and Jejeebhoy required that they only match on two ("wife not involved" or "wife involved"), and this study's pooling of wife's ranking in decision-making as "first and second," (which subsumed both lone and joint decision-making) "third or fourth" (which was by far the smallest category), or "no say at all".

However, there were several results that diverged from previous studies. While Becker and Jejeebhoy both found that men routinely over-estimated, relative to their wives' reports, their wives' say in decision-making, and Allendorf's results showed the opposite trend – women overestimated their autonomy relative to men – this study found a mixture of the two, with men overestimating their wives' that men over-estimated wives' say in some decisions but overestimated it in others. In areas where couples agreed that women had the least autonomy (freedom of mobility and decisions regarding purchase and use of household resources and finances), women tended to report that they had more say than

their husbands claimed they had. In areas where couples agreed that women had the most autonomy – that is, decisions regarding family planning and treatment of sick children – women tended to claim they had less power than husbands claimed they had.

Husbands' overestimation of wives' autonomy might be a result of husbands' desires to provide socially accepted responses combined with women's tendencies to default to cultural norms of deferment of decisions to their husbands. Jejeebhoy found that in focus groups, males tended to ascribe their wives less autonomy than indicated in their survey responses, while women frequently discussed traditional roles of power (Jejeebhoy, Ghuman, Acharya and Bennet 1981).

Allendorf's finding that men consistently *underestimated* women's autonomy might be due to her definition of autonomy as women making decisions on their own. Using this definition as opposed to "joint" decision-making, women consistently overestimated their contribution, and a significant positive association was seen between autonomy and health care utilization.

Husbands' desire to provide more socially accepted responses might also be related to the extent of patriarchy in society. Ghuman, in her study of twenty-three different communities in five Asian countries, found a tendency of males to overestimate women's say in more patriarchal communities. While Jejeebhoy found overestimation on males' parts in general, the overestimation was more severe in patriarchal societies. However,

the communities under question involved large disparities in male and female education, which is not the case in this study.

It is possible that, in decisions regarding household resources (purchasing of household goods, use of savings and loans, et cetera), men provided responses that portrayed them as the primary breadwinners, while ascribing areas considered more women's roles, like childcare, to their wives. Women might have possessed covert sources of finances of which their husbands were unaware, resulting in their overestimation of their autonomy in this area.

Determinants of autonomy were largely similar according to both men's and women's reports, although women ascribed more importance to microcredit participation and employment outside the home than their husbands. This is similar to Allendorf's results, in which women ascribed more importance to employment than men. Women's reports are more consistent with research, which has shown links between female microcredit participation and higher decision-making, access to resources, and freedom of mobility, as well as links between female employment outside the home as an important determinant of autonomy (Hashemi et al., 1996; Pitt et al., 2003; Anderson et al., 2008). Like men's relative underestimation of women's power over control of resources, the relatively lower importance ascribed to education and microcredit participation might reflect a desire among males to present themselves as breadwinners by diminishing the impact of women's financial independence on their household power. While males ascribed little significance to paid employment or microcredit participation, these

variables were found to be significantly related to health care outcomes, with employed women more likely to take their sick children to trained health professionals, more likely to receive antenatal care, are less likely to experience unwanted and mistimed pregnancies.

An unusual finding was that after adjusting for age, education, parity, and wealth, a significantly negative association was found between autonomy and antenatal care. Antenatal care was, however, associated with greater levels of education, household wealth, and women's employment. The significant relationship between antenatal care and numerous covariates might result in an erratic relationship between autonomy and antenatal care when these variables are adjusted for.

Another significant finding is that the relationships between autonomy and health behavior were very similar between couples that agree and reports based solely on women's survey responses. Furthermore, among couples that disagreed, the relationships found in the wives' reports were always closer to the reports of concordant couples than the husbands'. This has important implications for whether or not women's responses, which are commonly the only ones collected in empowerment surveys, are reliable. Ghuman concluded that women's survey responses were more aligned with outcomes regularly shown in research and concluded that measuring agreement between couples' reports were of little use. Becker, on the other hand, found significant relationships in husbands' reports that were not present in wives' and concluded that surveying husbands

was therefore useful in understanding healthcare outcomes. The results of this strongly suggest that women's reports might be more accurate and reliable than their husbands.

A major limitation of this study was its small sample size of 512 couples. Because most women reported participation in most decisions, an unusually high cutoff for "high" levels of decision-making was defined (at least 8 of 9 decisions) in order to almost evenly divide the population into high- and low- decision-making power groups. Another potential limitation was the definition of autonomy as women being either the first or second most important voices in decisions, rather than first alone, which might have inflated levels of agreement between couples.

The results of this study largely support the reliability of women-only surveys. Two points particularly suggest this case. First is the greater number of significant determinants of autonomy found in women's responses compared to men, particularly the ascribing of importance to factors involving economic independence, and the concurrence with the importance of these factors in other areas (for example, health care utilization). A second supporting factor were the similar results shown between autonomy and healthcare results according to women's reports alone, and the reports of only those couples that provided concordant responses. This is similar to the findings of Ghuman, who found the results of analyses with women's reports to be more consistent with known research than those of men. Jejeebhoy found that woman's focus group discussions largely corroborated with their survey responses, while those of men did not. While comparing men's and women's reports on women's autonomy might provide

important insights as to why these reports might differ, this study suggests that surveying primarily women on this topic, as is traditionally done, is a more reliable method than involving men's reports.

REFERENCES

- Acharya, Meena and Lynn Bennet (eds.). 1981. *The Status of Women in Nepal*. Kathmandu: Centre for Economic Development and Administration, Tribuvan University.
- Allendorf, Keera. 2007. Couples' Reports of Women's Autonomy and Health-Care Use in Nepal. *Studies in Family Planning*, 38(1): 35-46.
- Anderson, Siwan and Mukesh Eswaran. 2009. What determines female autonomy? Evidence from Bangladesh. *Journal of Development Economics* 90(2): 179-191.
- Becker, Stan, Fannie Fonseca-Becker, and Catherine Schenck-Yglesias. 2006. "Husbands' and wives' reports on women's decision-making power in Western Guatemala and their effects on preventive health behaviors." *Social Science & Medicine* 62(9): 2,313-2,326.
- Bloom, Shelah, David Wypij, and Monica Das Gupta. 2001. Dimensions of Women's Autonomy and the Influence on Material Health Care Utilization in a North Indian City. *Demography* 38(1) 67-78.
- Cleland J, Kamal N, & Sloggett A. 1996. "Links between fertility regulation and the schooling and autonomy of women in Bangladesh." *Girls' schooling, women's autonomy and fertility change in South Asia*, Sage Publications, New Delhi, India.
- Doan, Rebecca and Leila Bisharat. 2002. "Female autonomy and child nutritional status: The extended-family residential unit in Amman, Jordan." *Social Science & Medicine* 31(7): 783-789.
- Ghuman, Sharon J., Helen J. Lee, and Herbert L. Smith. 2006. "Measurement of women's autonomy according to women and their husbands: Results from five Asian countries." *Social Science Research* 35(1): 1-28.
- Hashemi, Syed, Sidney Ruth Schuler, and Ann P. Riley. 1996. "Rural Credit Programs and Women's Empowerment in Bangladesh." *World Development*. 24(4): 635-653.
- Jejeebhoy, Shireen J. 2000. "Convergence and divergence in spouses' perspective on women's autonomy in rural India." *Studies in Family Planning* 33(4): 299-308.

Kabeer, Naila. 2001. "Conflicts over credit: Re-evaluating the empowerment potential of loans to women in rural Bangladesh." *World Development* 29(1): 63-84.

Mistry, Ritesh, Osman Galal, and Michael Lu. 2009. "Women's autonomy and pregnancy care in rural India: A contextual analysis." *Social Science and Medicine*, 69:926-933.

Mullany Britta C., Michelle J. Hindin, and Stan Becker 2005. "Can women's autonomy impede male involvement in pregnancy health in Kathmandu Nepal?" *Social Science & Medicine* 61(9): 1993-2006.

Mumtaz, Zubia and Salway, Sara. 'I never go anywhere': extricating the links between women's mobility and reproductive health services in Pakistan. *Social Science & Medicine* 60(8): 1751-1765.

Pitt, Mark, Shahidur Khandker, and Jennifer Cartwright. 2003. "Does Micro-Credit Empower Women? Evidence from Bangladesh." World Bank Policy Research Working Paper No. 2998. Available at SSRN: <http://ssrn.com/abstract=636360>

Shroff, M., Griffiths, P., Adair, L., Suchindran, C. and Bentley, M. 2009. "Maternal autonomy is inversely related to child stunting in Andhra Pradesh, India." *Maternal & Child Nutrition*, 5: 64-74.

Thomas, Duncan. 1993. "The distribution of income and expenditure within the household." *Annales D'Economie et de Statistique* 29, 109-135.

Woldemicael, Gebremariam. 2009. "Women's autonomy and reproductive preferences in Eritrea." *Journal of Biosocial Science* 41, 161-181.