Women's Autonomy and Uptake of Contraception in Pakistan

The results of this study and other recent work suggest the need for greater attention in future studies to the husband-wife relationship, intra-household distribution and control of resources, as well as inter-household linkages

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Recent years have seen increasing attention being drawn to the issue of gender equality in the demographic and reproductive health literature (Federici, Mason and Sogner, 1993; Jejeebhoy, 1995; Dixon-Mueller, 1998). While some argue for this focus in the language of reproductive rights (Sen, Germain and Chen, 1994), it is also frequently asserted that greater gender equality will contribute positively to fertility decline (see, for example ESCAP, 1987).

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Available evidence from around the world suggests that increases in gender equality may not be a necessary precondition for widespread adoption of fertility control (see, for example, Amin, 1998 on Bangladesh and Egypt). However, the degree of gender inequality does seem likely to be an important conditioning factor, acting to speed or hamper the impact of other cultural and socio-economic changes and population policy shifts (Mason, 1993).

A number of possible routes of causation have been proposed on the question of how greater gender equality may encourage fertility regulation. Mason (1989) has summarized those causes that seem most plausible. Firstly, greater gender equality may result in a lower demand for children primarily because of a decline in son preference, a decline in the economic gains to men of high fertility, and a rise in the opportunity costs of childbearing with competing claims on women's time. Secondly, greater gender equality may facilitate the uptake of contraception because of increased female participation in decision-making, increased access to information by women, better communication between spouses, and a greater propensity for women to act innovatively.[1]

Much of the relevant demographic literature that has addressed the links between gender inequality and fertility regulation has focused on women's "autonomy". The concept of "autonomy" is multidimensional, and the scope of factors included within conceptualizations also varies between authors. While some have focused on "private concerns" (Dyson and Moore, 1983), others extend their definitions to include the capacity to act in the public realms of the labour market and social structures beyond the household (Jejeebhoy, 1995).

Operationalizing the elusive concept of autonomy has also proved problematic. Early empirical explorations of the relationship between female autonomy and fertility regulation tended to rely on education and occupation status as proxy indicators (Sathar and others, 1988). However, recognizing the limitations of such unidimensional indicators, recent studies have attempted to measure female autonomy more directly. In South Asia, these studies have focused particularly on developing indicators of women's mobility, participation in household decision-making, and control of financial resources (Schuler, Hashemi and Riley, 1997; Cleland, Kamal and Sloggett, 1996; Durrant and Sathar, 2000). Though some studies have found positive associations between such indicators and fertility control, results have been mixed and have tended to reaffirm the complex and multidimensional nature of women's autonomy.

Despite the apparent conceptual and methodological difficulties highlighted above, available evidence strongly suggests that gender inequality, and women's autonomy in particular, frequently plays a role in contraceptive

uptake and fertility decline. This relationship clearly warrants further attention, particularly in settings such as Pakistan, where contraceptive use remains low and gender inequality is marked.

The Pakistani context

Pakistani society is widely acknowledged to be highly patriarchal with clearly demarcated gender roles and large differentials in access to resources of all types (Durrant and Sathar, 2000; Winkvist and Akhtar, 2000). At the macrolevel, a feudal socio-political system, rooted in inequitable resource distribution, supported by a strong Islamic ideology, produces rigid class and gender hierarchies (Hafeez, 1998; Agha, 2000). At the micro level, marriages are largely arranged within the kin-group and reproduction of the patrilineal lineage is crucial for a woman's security in her marital home (Winkvist and Akhtar, 2000). A major aspect of gender construction is that of men as economic providers and women as dependants and homemakers (Khan, 1999). Decision-making authority, including that relating to reproduction, is normatively vested in men (Casterline, Sathar and Haque, 2001). The institution of purdah[2] provides further support to the demarcation of male and female roles and space and is closely tied to the *izzat* or honour of men (Khan, 1999).

In practice, of course, gender roles and relations are frequently under negotiation, and patterns of behaviour are more fluid than suggested by the overview given above. Furthermore, despite broad commonalities, Pakistani women are not a homogeneous group. Historical, ecological, socio-economic and ethnic factors play an important role in patterning women's gendered experience across this diverse country (Donnan, 1997). Recent years have seen important socio-economic change in Pakistan, including rising unemployment and poverty (Sathar and Casterline, 1998). Concomitant household changes are evident, with weakening parental control, nucleation of families, and reduced demand for children (Kazi and Sathar, 1996; Sathar and Casterline, 1998). Slowly the forces that have sustained high fertility are weakening and transition is underway (Population Council, 1993). At the same time, the level of "unmet need" for contraception has risen (Population Council, 1997).

In this climate of change, it is important to understand more about the relationship between gender equality and fertility transition. A study of Punjabi couples concluded that women's autonomy had a strong role in explaining differentials in contraceptive use (Sathar and Kazi, 1997). Indicators of interspousal communication, women's freedom to purchase small items and women's participation in decisions related to intra-household affairs were all positively associated with contraceptive use. It was also found that women living in nuclear households showed greater autonomy on a range of indicators

and were more likely to use contraception than those living in extended households. An analysis of another Punjabi data set by the same authors produced somewhat different findings (Kazi and Sathar, 1996). While interspousal communication and nuclear family structure were again predictors of contraceptive use, participation in household decisions was not found to be associated with greater use of contraception. Indicators of women's mobility were not associated with contraceptive use in either of these quantitative analyses, while qualitative work by Khan (1999), again in Punjab, suggests that restricted mobility of women is an important barrier to accessing family planning services. Clearly, the findings to date are mixed, and there is a need for further investigation.

The current paper adds importantly to the discourse on women's autonomy in Pakistan and its implications for the success of health and family planning initiatives by providing empirical evidence from a recent, nationally representative cross-sectional survey. To date, much of the work on this topic has been based in Punjab, preventing extrapolations to the rest of the country. The present data enable us to explore important regional and ethnic differentials in indicators of women's autonomy. Furthermore, the large sample size allows multivariate analyses that reveal the influence of autonomy on the uptake of contraception net of other important confounding factors.

Data and method

The data used in this paper are from the Pakistan Fertility and Family Planning Survey (PFFPS) 1996-1997, which provides a national sample of women (Hakim, Cleland and Bhatti, 1998). Successful interviews were conducted with 7,325 households, and in these households 7,848 ever-married women aged between 15 and 49 were interviewed. The analysis for the present paper was restricted to currently married women, of whom there were 7,584 in the weighted sample. All analyses were performed using the set of Stata Survey ("svy") commands in the statistical package Stata, which adjust appropriately for the fact that the sample was both weighted and based on a cluster sampling design (Stata Corporation, 1999).

The PFFPS included a series of questions aimed at capturing two dimensions of Pakistani women's autonomy, mobility and domestic decision-making, measured at the level of the individual woman. While we acknowledge that these questions cannot comprehensively describe women's autonomy, they do address two important aspects. Furthermore, since one's understanding is so limited of which dimensions of women's gendered position are actually important in relation to the uptake of contraception, an analysis of national data on certain elements, however partial, is important.

Mobility

While the seclusion of women within the home has never been absolute (Donnan, 1997), control of women's mobility and their exclusion from public, male space is perhaps the most salient feature of purdah in traditional Pakistani society. Recent investigations of the link between women's autonomy and demographic behaviour in Pakistan have included mobility as a central dimension of autonomy. However, it is clear that the measurement and interpretation of mobility is not straightforward. Observed mobility cannot be uncritically equated with some notion of "freedom of movement" since it may reflect economic necessity rather than desire of autonomy on the part of the woman. Nevertheless, such movement beyond the home may have important implications for exposure to information, development of interpersonal skills, increased self-confidence, and opportunities to take independent action. Thus, movement outside the home may facilitate the uptake of contraception. The present analyses are based on responses to the question "In the last four weeks, have you been outside this village/neighbourhood for any purpose without the company of another adult?"

Domestic decision-making

Decision-making has been a central concern of much prior research on women's autonomy and fertility control. It is hypothesized that a greater involvement in household decision-making[3] will place women in a better position to exert influence over reproductive behaviour, including uptake of contraception. However, as already mentioned, empirical findings from Pakistan are somewhat mixed.

The present analyses are based on responses to questions on decision-making regarding the treatment of sick children and the purchase of food. In each case, respondents were asked first who usually participates in the decision, and then who usually takes the final decision.[4] The vast majority of all women reported participating in each of these decisions: 91 per cent in child treatment decisions and 85 per cent in food purchase decisions, though the proportion taking final decisions was much lower (Hakim, Cleland and Bhatti, 1998).

Bivariate relationships between the mobility and decision-making variables and various background characteristics of the women were first examined using cross-tabulations and design-based F tests of significant association. The Stata command, svylogit (logistic regression for survey data) was then used to estimate pseudo-maximum-likelihood logistic regression models in order to examine the combined effect of independent variables on the

indicators of autonomy. The independent variables examined included life-cycle and family structure indicators (age, number of living children, marriage type, household structure); indicators of socio-economic status (education, occupation, household economic status, husband's education, husband's occupation); and location and ethnic factors (urban-rural residence, province, mother tongue).

Having examined the predictors of greater autonomy, the authors went on to explore the association between the indicators of autonomy and current use of contraception. The binary outcome variable was coded as: respondent (or husband) is currently doing something to delay or avoid pregnancy (including sterilization, modern and traditional methods of contraception) versus respondent is not currently doing anything to delay or avoid pregnancy.[5]

Again, examination of the data involved first the use of cross-tabulations and then logistic regression. The models were developed sequentially so that the effect of different combinations of factors on the current use of contraception could be examined in detail.

Findings

Predictors of women's mobility and decision-making involvement

Overall, movement outside the village/neighbourhood alone in the four weeks preceding the interviews was uncommon, with just 18 per cent of all respondents reporting that they had made such a trip. The authors' analysis of the predictors of women's decision-making involvement was based on their reports of taking final decisions, either alone or jointly with their husbands, in matters relating to (a) treatment when a child is sick, and (b) food purchases.[6] Overall, 38 per cent of women reported taking final decisions regarding child treatment, and 30 per cent regarding food purchases. Bivariate analyses revealed wide variations in both reported mobility and decision-making between subgroups of women.

Socio-economic factors. In bivariate analyses, all three indicators (mobility and the two decision-making variables) were positively associated with higher women's education, women's employment in a professional job and increasing household economic status (as measured by ownership of assets).

Life-cycle factors. In Pakistan, age and gender hierarchies are interrelated in complex ways. Women's roles and associated behaviours change with age and life-cycle events (in particular puberty, marriage and the birth of children,

particularly sons). As we expected, age and number of living sons showed positive associations with mobility and decision-making in the bivariate analyses.

Family/household factors. A cousin-marriage may reflect a more traditional household than one between unrelated individuals, and so women in such marriages might be expected to be less mobile and less involved in decisions. Similarly, an extended household living arrangement may be indicative of more traditional intra-familial relationships than a nuclear household. Twenty-two per cent of women who were married to an unrelated individual reported movement outside alone compared with 16 per cent of those married to a related individual (most commonly first cousins on the father's side). Twenty-four per cent of women living in nuclear households reported movement compared with 14 per cent of those living in extended households. Final decision-making was more common in both spheres among women in nuclear households than among those in extended households. However, a significant positive association between decision-making and marriage to an unrelated individual was found only for decisions on child treatment.

Ethnic and residence factors. When the four provincial categories are compared, only Balochistan appears distinct, with a far lower proportion of women reporting movement outside than in the other regions (less than 5 per cent, compared with over 15 per cent in all other regions). However, use of the provincial categorization obscures differentials between language groups within the provinces. This is particularly true for Punjab, where Punjabi and Siraiki women differed significantly in their reported mobility. This finding suggested the use of "mother tongue" as an indicator of ethnic group in subsequent analyses rather than "province". Important differentials were also found between language groups in the level of involvement in final decisions. Large differentials in the indicators were also evident by urban-rural residence. Women resident in "major urban" areas were most likely to report mobility and final decision-making, with those resident in "other urban" areas following, and lastly those in rural areas.

Multivariate findings. Clearly, several of the variables explored above are closely related. Therefore, multivariate logistic regression was employed to examine the combined effect of different background variables on the three selected indicators of women's autonomy (table 1). In particular, urban-rural residence was found to be an important confounding factor for a number of the other variables. Table 1 (column 1) shows the final model resulting from the model-building process for the mobility outcome variable.

Age retains a strong positive relationship with mobility. Women aged 40 years and above have odds of having gone outside the village or neighbourhood alone over four times higher than women aged 15 to 19 years. Having

Table 1. Final logistic regression models of predictors of indicators of autonomy (mobility and decision-making) among currently married women (aged 15 to 49 years)

Predictors	Reported mobility		Decision-making on child treatment		Decision-making on food purchase	
Age						
15-19	1		1		1	
20-29	1.97	*	3.18	***	1.74	*
30-39	3.37	***	5.02	***	3.26	***
40-49	4.74	***	4.58	***	3.73	***
Number of living sons						
None	1		-		-	
One	1.41	*	-		-	
Two or more	1.61	**	-		-	
Education						
None	-		1		1	
Up to primary	-		1.08	n.s.	1.09	n.s.
Above primary	-		1.61	**	1.10	n.s.
Respondent's occupational status						
Does not work	1		1		1	
Performs non-professional job	1.38	n.s.	0.96	n.s.	0.74	n.s.
Performs professional job	6.05	***	2.62	**	1.74	n.s.
Mother tongue						
Urdu	1		1		1	
Punjabi	1.07	n.s.	1.56	**	1.07	n.s.
Sindhi	0.39	**	0.72	n.s.	0.37	***
Pushto	0.75	n.s.	0.45	***	0.23	***
Hindko	0.76	n.s.	1.30	n.s.	0.39	*
Balochi	0.28	**	0.31	**	0.39	**
Siraiki	0.37	**	0.84	n.s.	0.58	n.s.
Other	0.42	n.s.	0.50	**	0.34	**
Urban/rural residence						
Major urban	1		1		1	
Other urban	0.56	*	0.67		0.48	**
Rural	0.58	*	0.52	***	0.50	**
Household structure						
Nuclear	-		1		1	
Extended vertically	-		0.60	***	0.41	***
Other	-		0.89	n.s.	0.76	n.s.
Weighted total	7,584		6,619		7,584	

Note: n.s. indicates non-significance.

controlled for age, being the mother of a son also appears to contribute to the increased mobility of women.

The model confirms the relationship between work status and mobility, with only the professional group (a very small proportion of all women) having greater mobility than non-workers. It is also interesting to note that, once urban-rural residence and occupation are controlled, being educated does not imply any greater mobility than being uneducated. The indicator of household socio-economic status also lost significance once urban-rural residence and occupation were controlled for. These variables were dropped from the final model.

The indicators of household structure and marriage type were no longer significant predictors once language group was entered into the model, indicating that these are closely associated with ethnic group. The model confirms significant ethnic differentials. When compared with a baseline of Urdu speaking women, women speaking Balochi, Siraiki and Sindhi are found to be less mobile. Women residing in "major urban" areas are comparatively more mobile than those residing in "other urban" or "rural" areas.

Table 1 also presents the results from the final models estimated for decisions regarding treatment of a sick child (column 2), and for decisions regarding food purchase (column 3). Age retains a strong positive relationship with both decision-making variables, though the patterns are slightly different, and there are larger differentials for decisions about child treatment. In both cases, the effect of having living sons loses significance once age is controlled for and this variable is dropped from the final model.

The effects of women's education were found to decline once urban-rural residence was controlled for, and to differ between the two decision-making variables. While women who are educated above the primary level are significantly more likely to report final decision-making on child treatment, there is no significant difference between them and the women with no education with respect to decisions about food purchase. Similarly, while professional workers are more likely than non-workers to report final decisions about child treatment, they are not significantly more likely to report final decisions about food purchase (though the differential is in the same direction).

The association between urban-rural residence and decision-making is similar for the two variables, with the "major urban" women standing out as being more likely to report final decisions than women in "other urban" or "rural" areas.

The mother tongue variable shows a slightly different relationship with the two decision-making variables. As far as decisions regarding child treatment are concerned, Punjabi speakers are more likely to report final decision-making than Urdu speakers, while Hindko speakers appear to be

similar to Urdu speakers. By contrast, for decisions about food purchase, Urdu and Punjabi speakers are similar and the most likely of the language groups to report final decisions, while Hindko speakers are significantly less likely than these two groups to report final decisions. The language groups, Sindhi, Pushto, Balochi, and "other" are consistently less likely to report final decision-making than the baseline Urdu speakers, while Siraiki speakers appear to be similar to Urdu speakers on both decision-making variables.

A similarity between the two models is that household structure appears to be an important factor. Women in extended households were less likely than those in nuclear ones to report final decision-making about both child treatment and food purchase.

Multidimensionality of autonomy

The regression results presented above indicate important differences in the predictors of the decision-making and mobility variables among the study's sample of Pakistani women. The differentials were similar for all three variables only in relation to age and urban-rural residence. Women's occupational status was a significant predictor of both mobility and final decision-making regarding child treatment, but not of decision-making regarding food purchase. Education was only associated with decision-making on child treatment. Living in a nuclear household was positively associated with both decision-making variables, with a particularly large differential for food purchase, but was not a significant predictor of mobility once other factors were controlled for.

Interestingly, the language group variable showed diverse relationships with the three autonomy indicators. With regard to mobility and decision-making on food purchase, Urdu and Punjabi speakers are similar and stand out as being more "autonomous" than the other groups. However, when it comes to final decisions on child treatment, Punjabi speakers are significantly more likely than Urdu speakers to give positive responses. At the other end of the spectrum, Balochi speakers and Pushto speakers tended to be least likely to report final decision-making on food or child treatment. However, Balochis stand out as being much less mobile than Pushto speakers. The Hindko speakers reported far higher levels of final decision-making regarding child treatment than regarding food purchase.

These findings suggest that the three selected variables are capturing different dimensions of "women's autonomy". Earlier studies in Pakistan similarly found that different indicators of autonomy have different predictors and little correlation (Kazi and Sathar, 1996; Sathar and Kazi, 1997). Consequently, what does this imply for women's autonomy in other spheres of

their lives, particularly regarding their control of fertility? It is by no means obvious which dimension of autonomy is of most relevance and we turn now to consider this question.

Predictors of contraceptive use

Overall, 24 per cent of respondents reported current use of contraception. Bivariate associations between general background variables and contraceptive use were in the expected directions. Current use of contraception was positively associated with: woman's educational level, woman having a professional job, household economic status, woman's age, woman's number of living sons, woman's number of living children, woman's desire to delay or avoid another birth, woman's report of her husband's desire to avoid another birth, marriage to an unrelated individual, being in a nuclear household, living in an urban area, and having been visited by a health or family planning worker in the past 12 months. Contraceptive use differed significantly between provinces, with the highest level in Punjab, followed by Sindh, North West Frontier Province and finally Balochistan. Comparing the language groups, Urdu speaking women were the most likely to report contraceptive use (37 per cent), and Balochis the least likely (9 per cent).

Significant differentials in reported contraceptive use were also apparent by all three indicators of female autonomy (table 2). Among women who reported that they had gone outside the village/neighbourhood without the company of an adult in the four weeks preceding the interview, 36 per cent reported current use of contraception, compared with 21 per cent who did not report this movement. Women who reported having the final say (alone or jointly with husband) in decisions about child treatment were significantly more likely to be currently using contraception (35 per cent) than those who did not report such decision-making (23 per cent). A similar differential was apparent for the decision-making variable relating to food purchase.

A series of logistic regression models was run to explore the combined effect of various background variables, and in particular to examine the relationship between the indicators of women's autonomy and contraceptive use, having controlled for potential confounders. Table 3 shows the odds ratios of contraceptive use associated with each one of the autonomy variables, first unadjusted, and then adjusted for various combinations of confounding factors. It can be seen that in each of the sets of models, the size of the odds ratio declines when controls for confounding factors are included, but that the effects nevertheless remain significant in the simpler models. Adjusting for age, achieved fertility and fertility desires reduced the odds ratios substantially,

Table 2. Bivariate relationships between indicators of women's autonomy and current use of contraception (all methods) among currently married women (15-49 years)

	Percentage of women reporting current use of contraception	Design-based F test
Mobility		
Gone outside village/neighbourhood without adult in the past four weeks preceding the interview		
Yes	36.1	
No	21.3	53.4, $p < 0.001$
Decision-making		
Who has final say in decisions about child treatment (women with living child)		
Respondent alone/ jointly with husband	34.8	
Husband alone/other family members	22.6	42.0, $p < 0.001$
Who has final say in decisions about food purchase		
Respondent alone	35.3	
Husband alone/other family members	19.0	61.4, $p < 0.001$

suggesting that part of the effect of the autonomy variables may be via a stronger demand for fertility control. However, the differential remains significant in all cases, suggesting that part of the effect of the autonomy variables acts via an enhanced ability of "autonomous" women to act upon fertility control desires. Adding further combinations of confounding factors to the models tended to reduce the size of the effects still further, so that only the food purchase decision-making variable retained a significant effect when all potential confounders were included.

Interpretation of these combined effects is complicated by the fact that some of the "background" variables are hypothesized to both confound the relationship between autonomy and use of contraception, *and* to act in part via an effect on autonomy. For example, urban residence is associated with both current use of contraception and the indicators of autonomy. Urban women are more likely than rural women to report current use of contraception, and are more likely as well to report final decision-making and movement outside the village or neighbourhood. Controlling for urban-rural residence in the models allows us to estimate the net effect of the autonomy variables on contraceptive use, that is, the association between "autonomy" and contraceptive use among

Table 3. Unadjusted and adjusted logistic regression odds ratios of current contraceptive use by indicators of women's autonomy among currently married women (15-49 years)

	Indicators of autonomy		
	Reported going outside village/neighbourhood alone	**Reported final decision-making on child treatment**	**Reported final decision-making on food purchase**
Unadjusted	2.09	1.83	2.34
Adjusted for age, achieved fertility and fertility desires	1.52	1.37	1.65
Adjusted for socio-economic factors	1.82	1.55	2.06
Adjusted for residence and language group	1.69	1.40	1.80
Adjusted for access to health/family planning services	2.10	1.82	2.35
Adjusted for all potential confounders	1.26 n.s.	1.10 n.s.	1.34

Notes: 1. All odds ratios retained significance at 0.01 level or lower unless non-significance is indicated by n.s.

2. Models adjusting for achieved fertility and fertility desires included age, number of living children, respondent's desire for more children and respondent's report of husband's desire for more children.

3. Models adjusting for socio-economic factors included respondent's education, husband's education, household asset score, and respondent's occupational status.

4. Models adjusting for residence and language group included urban/rural residence, language group.

5. Models adjusting for access to health/family planning services included whether the woman had been visited by any kind of health or family planning fieldworker in the past 12 months.

6. Models adjusting for all potential confounders included age, number of living sons, respondent's desire for more children, respondent's report of husband's desire for more children, respondent's education, husband's education, province, household asset score, household structure and urban-rural residence.

urban and among rural women. The same could be argued for some of the other variables, including household structure, province and education.

Table 4 presents the detailed results for the final logistic regression model. It can be seen that, having controlled for a range of potential

Table 4. Final logistic regression model for predictors of contraceptive use including decision-making on food purchase among currently married women (15-49 years)

Predictors	Odds ratio	95 per cent confidence interval			p value
Decision-making food purchase					
Husband alone/other family members	1				
Respondent alone	1.34	1.07	-	1.68	0.009
Number of living sons					
None	1				
One	2.00	1.21	-	3.32	0.007
Two or more	3.56	2.24	-	5.65	< 0.001
Respondent's fertility desires					
Wants no more children	1				
Wants next child after two years or more	1.18	0.87	-	1.62	n.s.
Wants next child before two years/soon	0.25	0.15	-	0.41	< 0.001
Up to God/other	0.21	0.14	-	0.30	< 0.001
Respondent's report of husband's fertility desires					
Wants no more children	1				
Yes, wants more children	0.40	0.31	-	0.53	< 0.001
Don't know/undecided	0.30	0.12	-	0.74	0.010
Respondent's education					
None/only informal	1				
Up to primary	1.86	1.47	-	2.34	< 0.001
Above primary	1.56	1.12	-	2.20	0.009
Husband's education					
None/up to primary	1				
Above primary	1.23	1.02	-	1.49	0.033
Asset score					
Very poor	1				
Poor	1.35	0.99	-	1.83	n.s.
Lower middle	2.44	1.62	-	3.68	< 0.001
Middle	1.96	1.29	-	2.99	0.002
Upper	3.04	1.84	-	5.02	< 0.001
Province					
Punjab	1				
Sindh	0.82	0.63	-	1.06	n.s.
North West Frontier Province	0.94	0.74	-	1.19	n.s.
Balochistan	0.44	0.28	-	0.70	0.001
Household structure					
Nuclear	1				
Non-nuclear	0.73	0.57	-	0.94	0.014
Urban/rural residence					
Major urban	1				
Other urban/rural	0.80	0.64	-	0.99	0.04
Weighted total	7,578				

Notes: 1. Six cases were excluded because asset information was missing.
2. n.s. indicates non-significance.

confounders, women who report final decision-making on food purchase have odds of current contraceptive use 32 per cent higher than those who do not report such decision-making. Many of the other variables also retained a significant association with current use of contraception, with household asset score and number of living sons showing particularly strong effects.

Summary and discussion

Levels and differentials in autonomy

Consistent with earlier studies, the authors' findings support the picture that Pakistani women enjoy very limited autonomy. Pakistani women's movement, particularly beyond their immediate neighbourhood, is severely restricted. Further, though the majority of women report participating in household decisions, far fewer state that they alone are the final decision makers. This is perhaps not surprising in a setting where family members are strongly interdependent and joint decision-making might be expected. However, it is striking to note that almost 50 per cent of women reported that their husbands *alone* take final decisions regarding child treatment.

Despite this general picture, the present findings highlight significant heterogeneity by life-cycle factors (age, number of living sons), ethnicity and urban-rural residence. By contrast, for the majority of women, employment and education appear to make little difference to their degree of autonomy. These findings suggest that "acquired" characteristics have a lesser role than the wider sociocultural structures, norms and values (including age-gender hierarchies), in determining a woman's degree of autonomy.

Is women's autonomy an important determinant of contraceptive use in Pakistan?

The results presented above reveal significant associations between current use of contraception and all three indicators of autonomy, even after controlling for various potential confounding factors. However, the association is strongest for final decision-making on food purchase, and this variable alone retains significance in the most complex models.

The present data do then suggest that women's autonomy may play a role in determining the uptake of contraception among Pakistani women. However, the size of effects is quite small. For example, the unadjusted odds ratios of current contraceptive use among women who report final decision-making on food purchase compared with those who do not is 2.3. Having controlled for confounders in the final model, this falls to just 1.3. In comparison, adjusted

odds ratios were 3.6 for women with two or more living sons compared with those with none, and 3.0 for women in the "upper" asset score group compared with those in the "very poor" group.

Firm conclusions about the way these dimensions of autonomy act to influence contraceptive uptake are obviously not possible from an analysis of quantitative survey data. However, based on earlier research and the authors' recent qualitative work yet to be published, we offer some tentative interpretations. It seems likely that women who report unaccompanied mobility outside their village or neighbourhood have their relatives' trust and this may reflect the fact that they have a more central role within their families. Similarly, women who report final decision-making on issues related to food purchase (or child treatment) are likely to play a central role within their households. The authors postulate that such women are better able to influence decisions regarding uptake of contraception, in part via increased communication with husbands, but also in some cases by taking independent decisions. In addition, women who are mobile are more likely to be able to access information and, if necessary, to act alone to initiate contraceptive use.

Gender inequality more broadly defined

Though the effects of the study's direct autonomy indicators are small, the findings suggest that the influence of gender inequality, more broadly defined, is far greater. The importance of bearing sons emerges strongly from the survey data. As noted above, "number of living sons" is positively and strongly associated with current contraceptive use even after controlling for a broad range of confounding factors. Part of this association is explained by a preference for male children. However, the effect may also operate via increased female autonomy associated with being the mother of sons (as found for mobility). Furthermore, the persistence of a significant effect in the final model (table 4), which controls for decision-making with regard to food purchasing and fertility desires, suggests an effect via other dimensions of gender inequality not taken into account in this study. Some recent studies have similarly highlighted the important role of bearing sons in determining reproductive behaviour, and women's behaviour more generally, in Pakistan (Winkvist and Akhtar, 2000; Kazi and Sathar, 1996).

A further factor that shows a persistent relationship with current contraceptive use is being a member of a nuclear family. Work by Sathar and Kazi (1997) produced similar findings in Punjab. The results of this study indicate that women living in nuclear households are more likely to take final decisions on both child treatment and food purchase than those who live in more complex households. Furthermore, the persistence of a significant effect

in the final model again suggests an influence via other dimensions of gender equality.

The results for current contraceptive use also show a significant association with husband's fertility desires and husband's education, even having controlled for the respondent's own fertility desires and education. This finding again points to the role of gender relations more broadly defined, in determining reproductive behaviour. The results of this study and other recent work (Durrant and Sathar, 2000; Sathar and Kazi, 1997) suggest the need for giving greater attention in future studies to the husband-wife relationship, intra-household distribution and control of resources, and inter-household linkages, particularly women's links with natal kin.

Policy implications

Policy reactions to the authors' findings will depend on the degree to which reducing gender inequality is identified as an objective in its own right. Family planning policy could be made more sensitive to the gender-based constraints on the uptake of contraception, without aiming to redress the underlying inequalities directly. For instance, recognizing the constraints on women's mobility, family planning programmes should aim to make contraceptive information and methods more readily available at the village level. Furthermore, since women continue to have a limited role in household decision-making, and men's desires do appear to influence the adoption of contraception, family planning programmes must reach out more directly to men. As recent work shows, men's gender-based obstacles to family planning use are distinct from those of women (Population Council, 1997).

However, a more radical approach would aim at directly meeting women's "strategic gender needs" for greater influence over their own reproductive behaviour. Such an approach would ideally involve action at multiple levels to increase women's access to resources of various types, through both strengthened informal rights and claims within the household and community, and extended formal rights (legislation and State provision in women's interests). These findings, and those of other recent studies, suggest that such attempts to reduce gender inequality would have a positive impact on contraceptive uptake and other health outcomes (Durrant and Sathar, 2000).

Given that Pakistan is a signatory of the 1994 Programme of Action of the International Conference on Population and Development, we would hope that policy directions would take the more radical of these approaches. However, this will clearly need strong political commitment, concerted effort and stronger linkages between family planning and social development policy.

Endnotes

1. The effect of gender equality on achieved fertility via changes in marriage patterns will not be discussed here as we are primarily concerned with active fertility regulation.

2. A system in certain Muslim and Hindu societies of screening women from strangers by means of a veil or curtain.

3. Decision-making in other realms, for instance economic matters, has also been a focus in earlier research and is another important dimension of women's autonomy which deserves further investigation.

4. The questions relating to decision-making were:

> *'When a child is sick who usually participates in decisions about treatment? Probe: who else?'*
>
> *'Who usually takes final decision about treatment?'*
>
> *'When food has to be bought, who usually participates in decision about what to buy?' Probe: who else?'*
>
> *'Who usually takes final decision what things to buy?*

The questionnaire was translated into local languages.

5. In order to have sufficient numbers of contraceptive users to enable multivariate analyses, authours decided to include all contraceptive methods, around 35 per cent of all users reported using male-controlled methods (condom and withdrawal). Including these method users might be postulated to dilute the effects of the autonomy variables. However, re-running the main models excluding these methods did not suggest important differences in the patterns observed.

6. The two decision-making variables were coded slightly differently on the questionnaire. The response category "respondent and husband jointly" was not included for the question on food purchase, and so the recoded binary variable included the categories "respondent alone or respondent jointly with husband" versus "husband alone/others".

Acknowledgements

The authors would like to acknowledge the valuable contributions to this paper from Professor John Cleland, Mr. Faateh uddin Ahmad and Martine Collumbien.

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