The Role of Ethnicity and Migration in Determining Fertility Behavior in Pakistan

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Extended Abstract

The latest DHS (2006-2007) data show a TFR in Pakistan of 4.1, only slightly lower than the TFR in 2001, and a decline in the contraceptive prevalence rate to 29 percent from 32 percent in 2003. Previous explanations for this sluggish fertility behavior include barriers due to religion, gender discrimination, low levels of social development, and lack of demand for family planning. This paper examines the hypothesis that ethnicity plays a significant explanatory role in the fertility transition of Pakistan. It does so by examining the impact of ethnicity (measured as linguistic grouping) on the social diffusion of fertility behavior through its influence on age at marriage and its relationship to reproductive and fertility behavior. The paper uses several national datasets and draws on the literature on social diffusion and fertility change, and ethnicity and family formation to formulate better understanding of the recent fertility behavior in Pakistan. Analysis of sub-national migration behavior is considered whenever possible to better understand the importance of ethnicity on age at marriage and associated fertility behavior.

Introduction

The latest DHS (2006-2007) data show a TFR in Pakistan of 4.1, only slightly lower than the TFR in 2001, and a decline in the contraceptive prevalence rate to 29 percent from 32 percent in 2003. Explanations for this sluggish fertility behavior include barriers due to religion, gender discrimination, low levels of social development, and lack of demand for family planning. There are several other factors that impact fertility decline that have been the subject of study in Pakistan.

One such factor is age at marriage which is considered a strong contributor to fertility decline in Pakistan. Before the increase in contraceptive use witnessed in the 1990s, increasing age at marriage was the primary force for reducing fertility (Sathar and Casterline 1998). Despite the rapid increase in contraceptive use from 11 percent in 1991 to almost 30 percent by 2000, rising age at marriage has remained the strongest inhibitor of fertility [1]. Contraceptive use in Pakistan has stagnated since the millennium but women are continuing to marry later, making age at marriage an even more significant factor in Pakistan's fertility transition. While understanding the determinants of and obstacles to contraceptive use have received significant attention in the demographic literature as well as in government policy (Hamid and Stephenson 2006; Casterline et al 2001; Mahmood and Ringheim 1996), age at marriage, despite its demographic importance, remains an understudied area. If Pakistan is to meet its population goals and reach replacement level fertility it is critical to better understand the factors that underlie both contraceptive use and age at marriage.

This paper builds on the earlier work by Sathar et al (2008) that demonstrated the explanatory power of ethnicity in Pakistan's slow fertility decline. While this previous study focused on ethnicity's relationship with the desire to limit childbearing and contraceptive use, the current paper extends the analysis to include timing of marriage. In addition, we analyze the migratory patterns of ethnic groups to ascertain the explanatory power of social diffusion against the strength of cultural norms and values. Our main hypothesis is that ethnicity has a strong influence on social values and behaviors such as age at marriage, and will thereby drive future fertility trends, differences and intentions.

The paper begins with a review of the literature on ethnicity and its role in fertility transitions including timing of marriage. It then presents the characteristics of the various ethnic groups in Pakistan focusing on residence, migration, economic, and educational patterns. The third section analyzes ethnic patterns in the status of women and their fertility behavior, starting with autonomy indicators and then moving on to age at marriage. The fourth section presents the results of regression analysis for women's status and age at marriage controlling for various

[1] The index for marriage Cm, derived from Bongaarts proximate determinants of fertility has decreased from 0.67 in 2001 to 0.62 in 2007, a smaller index indicates a stronger inhibiting effect on fertility, which supports our assessment.

background factors. The final section provides discussion of results and suggestions for future research.

Literature review

The influence of ethnicity on fertility decline has been studied in several settings including European societies (Knodel and van de Walle 1979; Lesthaeghe 1978) and developing countries (Leete 1996; Basu and Amin 2000). These studies suggest that fertility change is influenced by linguistic, ethnic and cultural boundaries (cited in Thapa 1989; Basu and Amin 2000) independent of socio-economic factors.

Ethnic identity is particularly important in the multilingual state of Pakistan where most people identify themselves by their clan or ethnic group as opposed to a single national identity as Pakistani. Language has been at the heart of Pakistan's ethnic struggles; where ethno-national identities have been expressed through language movements (Rahman 1996). Ethnicity can be viewed primordially, as shared biokinship, commonality of descent and blood-relations, or instrumentally as a feeling of social cohesion based on religion, language and culture to gain power. We define ethnicity in this paper as based on language and as representing a common identity of traditions, culture and history. It is this linguistic commonality that acts as a medium for the diffusion of ideas or ideational change in social norms and practices.

Marriage is a social institution that is strongly influenced by cultural norms and values not only with respect to its ceremonial practices or transactions, but also its timing. "Ethnic group identification can be considered a powerful proxy for the varied nuptial, institutional arrangements, especially in pluralistic societies" (Thapa, 1989, p.4). Various studies have examined the role of culture in family formation and find similar effects of ethnicity (Rindfuss and Hirschman 1984). The study by Thapa (1989) examined the role of ethnicity in the timing of family formation in Nepal. Thapa finds that ethnic group identification has a strong and significant effect on age at marriage even after controlling for socio-economic factors.

Although it has experienced a steady rise, there are persistent differentials in age at marriage in Pakistan. These differentials have commonly been presented at the regional and provincial level; however, given the heterogeneity within provincial and regional boundaries, analyzing ethnic differentials presents us with a more comprehensive and culturally sensitive picture. Sathar et al (2008) found median age at marriage to vary across ethnic groups from a range of 17 to 20. Such large variation in age at marriage has significant implications for fertility trends; marriage being the marker for the transition to motherhood in Pakistan. Moreover, early marriage influences the level of education and employment status of women, which have their independent effect on fertility behavior and intentions.

Data

In our study we primarily draw on data from the Pakistan Demographic and Health Survey (PDHS) 2006-2007. As per most DHS surveys this data set provides nationally representative extensive information on fertility behavior of women of reproductive age along with their background demographic and social indicators. The stratified sampling used by standard DHS procedures yielded 10,023 ever married women (15-49 years) for in-depth interviews, thereby allowing us to carry out disaggregated analysis on a substantively large sample of women at the provincial, regional and ethnic level. Further, the DHS benefits from being the most recent data collected on fertility behavior in Pakistan. However, the PDHS does not contain any information on the status of women. For this purpose we use the Status of Women Reproductive Health and Family Planning Survey 2003 conducted by the National Institute of Population Studies. This nationally representative survey followed the same methodology as the DHS and yielded a sample of 8718 ever married women ages 15-49.

Migration data used in this paper is extracted from the last census conducted in Pakistan in 1998. The census has information on lifetime and recent (10 years or less) migration at the national, provincial and district[2] levels. Intra-district and rural to urban (and vice-versa) migration was not estimated in the 1998 census which resulted in an under-estimation of the volume of migration compared to earlier censuses. Census data is available in the form of reports at the provincial and district level; migration patterns in these reports are restricted to inter-district migration within province.

Characteristics of ethnic groups

Table 1: Distribution of ethnicities (linguistic grouping) across provinces by region in the PDHS 2007 sample

		Urdu	Punjabi	Sindhi	Pashto	Balochi	Siraiki	Hindko	Others
Punjab	Urban	33	30	-	4	1	13	9	6
	Rural	13	66	-	3	5	64	7	11
Sindh	Urban	50	3	28	8	10	3	15	25
	Rural	2	-	67	-	30	15	3	33
NWFP	Urban	1	-	-	12	-	-	10	3
	Rural	-	-	-	63	-	4	56	7
Balochistan	Urban	1	-	1	2	9	-	-	2
	Rural	-	-	3	8	45	-	-	11
Total		100	100	100	100	100	100	100	100
N		803	4138	1054	1367	351	1562	287	455

[2] Districts are the third political tier in Pakistan since decentralization in 2001.

Women, based on their reported mother tongue are grouped into the ethnic groups Urdu, Punjabi, Sindhi, Balochi, Pashto, Siraiki, and Hindko. The remaining minority languages that are less than one percentage of the sample are grouped together into the category 'Other'[3]. The distribution of ethnicities across provinces in the DHS sample is in line with the common geographical breakdown of ethnic groups in Pakistan. The vast majority of Urdu speaking women resides in urban areas in Sindh and Punjab, with less than 15 percent residing in rural Punjab. Almost all Punjabis and Sindhis are concentrated in their respective provinces with only four percent of Sindhis found in Balochistan and three percent of Punjabis found in urban Sindh. While most Siraiki speaking women reside in rural Punjab around 15 percent are found in both rural Sindh and urban Punjab. Ethnic groups from NWFP are the most spatially spread out with 16 percent of Hindko women residing in Punjab and 18 percent in Sindh; Pashto speakers are found in all three of the other provinces, with 10 percent in Balochistan and slightly less than 10 percent each in Punjab and Sindh. The main difference between the Pashto and Hindko groups is their rural - urban variation, Hindko speakers residing outside NWFP live mostly in urban areas compared to Pashto speakers.

Migratory patterns in Pakistan loosely reflect the distribution of ethnicities across provinces in the DHS survey. Punjab, NWFP, and Balochistan have net out migration, while Sindh and the Federal Capital have net in migration. More than 85 percent of migration to Sindh is to urban areas and 70 percent of migration in Sindh is inter-provincial rather than intra-provincial. NWFP has the highest out migration with almost the same proportions moving to Sindh and Punjab, 47 and 41 percent respectively (Karim and Nasr, 2003)[4]. Memon (2005) in his analysis of the census finds that ethnically speaking, "migration into Punjab is a closed affair" while it is highest into Sindh. Moreover he points that people from districts in south Punjab (primarily Siraiki speaking area) have traditionally been characterized as the least mobile. Sindhis also have very low out migration from Sindh.

Taking the information together we can infer that Hindko speakers tend to migrate the most and mostly to urban areas. While Pashto speakers also have relatively high migratory patterns, most Pashto speakers reside in rural areas. Balochi, Sindhi and Siraiki speakers are the more stationary groups that reside primarily in rural areas. This observation is supported by the distribution of husband's occupation in the PDHS sample (see Table 2); after Urdu speakers, Pashto and Hindko speakers have the lowest proportion of husbands engaged in agricultural activity. The relatively high migration out of NWFP is possibly linked to the low level of agricultural activity; people's livelihood is less tied to land allowing them to be more mobile. On the other hand, Balochi, Sindhi and Siraiki women report the highest proportion of husbands engaging in agricultural activity among all ethnic groups, with about one-third engaged in farming.

[3] Others includes Barauhi, Pahari, Kashmiri, Potowari, Marwari, Farsi, and Other (as coded by DHS).
[4] Figures are for recent migration not lifetime.

Table 2: Socio-economic characteristics by ethnicity

		Urdu	Punjabi	Sindhi	Pashto	Balochi	Siraiki	Hindko	Others	Total
Husband's Occupation	Agriculture	4.4	20.9	32.4	14.2	34.6	32.0	7.3	29.8	22.1
	Blue Collar	50.6	51.4	42.6	59.5	38.8	48.5	59.5	44.3	50.5
	White Collar	45.0	27.7	24.8	26.3	26.6	19.5	33.2	25.9	27.4
	N	748	3813	983	1232	317	1425	247	418	9184
Husband's Education	None	18.1	29.0	39.5	39.9	49.8	46.0	20.4	46.8	34.7
	Primary	11.0	15.7	19.6	11.5	16.0	22.9	12.7	15.6	16.2
	Secondary	38.3	42.5	21.0	34.2	21.2	22.0	47.0	21.9	34.0
	Higher	32.6	12.6	19.3	14.3	13.0	8.9	19.3	15.2	14.9
	N	768	3920	1012	1321	336	1475	273	436	9539
HH Wealth Asset Index	Poorest	1.2	13.9	38.8	30.0	49.3	39.7	24.2	41.7	24.7
	Second	8.9	26.1	30.1	24.9	22.5	28.8	24.1	19.3	24.9
	Third	25.5	30.7	18.0	25.2	18.9	16.9	26.1	16.9	24.8
	Richest	64.5	29.4	13.0	19.8	9.3	14.6	25.6	22.1	25.6
	N	712	3,675	986	1,302	328	1,369	261	417	9,049

Ethnic differences extend to educational attainment within society. Once again Urdu speakers are the most educated group while almost half of Balochi, Siraiki and minority group husbands have received no education. The differentials in education among the ethnic groups found in the DHS lend support to our categorization of migratory and non-migratory ethnic groups. Various studies find that migration is associated with higher educational levels in Pakistan (Memon 2005, Khan and Shehnaz 2000). Hindko men have the second highest educational attainment rates; it is not surprising then that they are the most mobile group. In this manner, migration is linked to more outward looking behavior and positively influences the circulation of new ideas. Economic status loosely follows the same pattern, Balochi, Sindhi and Siraiki groups have the highest proportion of households in the poorest wealth quartile. The Urdu speaking and mostly urban group has the highest economic status, followed by Punjabi, Hindko and Pashto groups.

Differentials in women's status and fertility behavior

While women's educational attainment rates are significantly lower than their husbands', they follow the same ethnic variation. The Urdu, Punjabi and Siraiki women lead in the educational attainment levels, while the Balochi fall at the bottom. The only difference is that unlike the men, Punjabi women are more educated than Hindko women, indicating the presence of ethnic differences in the value attached to women's education.

Pakistan's ethnic groups differ not only in the value they attach to women's education but also the level of autonomy they grant women. As demonstrated in the previous study (Sathar et al 2008) women's mobility and decision making power within the household varies significantly by

their ethnic identity. Analyzing the same 2003 Status of Women Survey we find that in terms of decision making, Urdu, Punjabi and Hindko women have the highest status, while Balochi and Sindhi women have the lowest decision making power within the household. The patterns in mobility are slightly different; while Urdu and Punjabi women still have the highest mobility; Siraiki women have higher mobility than the other ethnic groups. A possible reason behind the higher mobility seen among Siraiki women is that more Siraiki women are engaged in economic activity (mostly agricultural) than any other group (Sathar et al 2008). However, Sindhi women have the second highest participation rate in economic activity yet they have very limited mobility.

Table 3: Decision making and mobility of women by Ethnicity

	Urdu	Punjabi	Sindhi	Pashto	Balochi	Siraiki	Hindko	Other	Total
Education									
None	24.5	55.6	77.2	79.6	87.3	81.1	59.3	75.5	64.8
Primary	14.0	18.7	12.3	8.6	5.3	10.1	17.8	10.6	14.1
Secondary	34.7	19.2	6.1	8.7	6.4	5.7	17.4	9.6	14.6
Higher	26.8	6.4	4.4	3.1	1.0	3.1	5.5	4.3	6.6
N	768	3,924	1,014	1,322	336	1,477	273	436	9,549
Decision making index[5]	6.5	6.3	4.2	5.0	3.8	5.4	6.4	5.5	5.7
Mobility[6]									
Local market	49.8	52.6	7.3	10.0	8.3	32.3	22.4	21.2	34.1
Local health center	48.3	49.4	6.5	9.7	5.6	25.7	14.8	18.7	31.2
Relatives or friends	40.1	47.9	6.1	21.2	8.0	30.5	35.7	27.9	33.3
The next city/village	21.6	27.9	3.3	3.3	1.2	10.2	5.5	8.3	15.8
N	818	3138	960	1065	251	1110	272	628	8241

While Pakistan has a relatively high age at marriage in the south Asian region, a quarter of women are still married before they reach the minimum legal age for marriage of 16. Consanguineous marriages are highly prevalent in Pakistani society; more than half of all marriages take place between first cousins and around 15 percent between second cousins or some other relation and only one-third of women have no relation to their spouses.

[5] Respondent decides about: What food to cook; Children's health care; Children's education; Support for own parents/relatives; Support for Husband's parents/relatives; Children's marriage; Buying/selling property/goods/animals; Gifts on marriages; Buying/selling jewelry

[6] Allowed to go alone.

Table 4: Marriage Indicators by Ethnicity

	Urdu	Punjabi	Sindhi	Pashto	Balochi	Siraiki	Hindko	Others	Total
Proportion married by age 16	13.9	15.9	33.5	30.1	33.5	34.0	26.0	37.3	24.3
Kin Marriage									
No relation	54.4	35.8	16.4	42.3	17.8	16.6	27.2	48.5	32.9
First cousin	31.9	50.9	69.1	43.5	65.1	66.5	56.9	39.0	52.8
Second cousin or other	13.8	13.3	14.6	14.2	17.1	16.9	15.9	12.5	14.3
N	768	3923	1012	1320	336	1477	273	436	9545

The data shows clear ethnic variation in marriage patterns. There are huge ethnic differentials in the proportion of women married by the age of 16. Others, Balochi, Sindhi and Siraiki groups have the highest proportion (around one-third) of women married by the age of 16. Urdu and Punjabi speaking women have a smaller proportion (14 and 16 percent respectively) married by the age of 16. Kin marriages are highly prevalent in Sindhi, Balochi and Siraiki groups. Women from the Pashto and other category have a lower prevalence of consanguinity despite their low age at marriage. In order to better understand the relationship between marriage and ethnicity, regression analysis was conducted. Based on our descriptive analysis and evidence from the literature we hypothesized ethnicity to play a significant role in determining the age at which women marry irrespective of their socio-economic background.

As mentioned earlier, marriage in Pakistan is the major marker for not only adulthood but also motherhood. Since the vast majority of births take place within marital union, the age at which women marry is highly correlated to the length of exposure to pregnancy, and consequently fertility behavior and desires. Like marriage, values and norms regarding fertility are expected to be influenced by outward looking behavior associated with non-consanguineous marriages, education, migration and employment.

Preferences are strongly influenced by social norms, expectations and pressure; fertility preferences are no exception. We find clear ethnic differences in women's opinion on the ideal number of children across ethnic groups. Once again, Urdu and Balochi women are at opposite ends of the spectrum with a difference of two children in their reported ideal number. Urdu and Hindko women report the lowest ideal size at 3.5, with Punjabi women following at 3.7. The rest of the ethnic groups all report close to 4.5 children as the ideal number. Balochi women however report a significantly larger number of children (5.7) as their ideal number.

Table 5: Fertility-related Behavior and preferences by Ethnicity

	Urdu	Punjabi	Sindhi	Pashto	Balochi	Siraiki	Hindko	Others	Total
Ideal number of children	3.5	3.7	4.6	4.5	5.7	4.4	3.5	4.7	4.1
Want no more after 3 + children	85	87	74	74	57	75	85	71	80
Want no more after 4 + children	94	92	84	80	70	82	92	78	87

Although ideal number of children gives some indication of family size preferences, they do not always reflect individual behavior; the question in the DHS asks about the ideal number of children per family in society, not for the woman herself. Therefore, even though the ideal family size closely corresponds to the TFR, it is not an accurate representation of women's individual fertility desires. This is reflected in the high percentage of unwanted births; unwanted fertility rate in Pakistan is one child per woman. Relatedly, more than half the women of reproductive age want to have no more children. This desire to limit childbearing is not equally pervasive across ethnic groups. Following earlier patterns, the smallest proportion of women wanting to limit childbearing within an ethnic group are the Balochi women. The highest proportion of women wanting no more children are the Urdu speaking women followed by the Punjabi and Hindko women.

Methods and models

To study the effect of ethnicity on women's status an index of autonomy was created by combining the decision making index (total of 9) and a mobility index that combined mobility related questions (total of 6) . Both decision making and mobility indices were converted to have values ranging from 0 to 1 and then were added to make the autonomy index that ranged from 0 to 2. This method is similar to the index used by Jejeebhoy and Sathar (2001) in their analysis of religion's influence on autonomy.

An OLS regression was then run to measure the effects of ethnicity on the autonomy index controlling for woman's age; educational attainment level grouped in none, primary (1-5), secondary (6-10) and higher (10+); household wealth status index constructed using factor component analysis; and her current work status. Since ethnicity is a categorical variable we create dummy variables for the ethnic groups and use Urdu as the reference category because it was the most progressive ethnic group with respect to all the outcome variables and therefore made interpretation easier.

To assess the role of ethnicity in determining age at marriage, we run logistic regressions for our dependent variable, proportion married by age 16, using two models. The first model only includes ethnicity as the explanatory variable. The second model adds various socio-economic and demographic background variables to the equation in order to assess the role of ethnicity

when controlling for these variations. These background variables include woman's education level, household wealth asset index and region.

Regression Results

Table 6: OLS regression coefficients for autonomy index controlling for age, education, household wealth status and employment status.

Ethnicity	Coefficient
Urdu	1
Punjabi	0.087***
Sindhi	-0.506***
Pashto	-0.306***
Balochi	-0.537***
Siraiki	-0.157***
Hindko	0.002
Others	-0.194***

Results for the regression analysis find that ethnicity does plays a significant role in determining the level of autonomy women are granted even when socio-economic background is controlled for. Compared to Urdu speaking women, only Punjabi women have significantly higher autonomy. Belonging to any other ethnicity reduces the level of autonomy; Sindhi and Balochi women have the most negative effect on women's status. Surprisingly, Siraiki women have a weaker negative coefficient than Pashto and women, which is most likely a result of higher mobility.

Table 7: Odds ratios for married by age sixteen

		Model 1	Model 2
Ethnicity	Urdu	1	1
	Punjabi	1.172	0.760
	Sindhi	3.117**	1.768**
	Pashto	2.659**	1.467*
	Balochi	3.117**	1.655*
	Siraiki	3.190**	1.775**
	Hindko	2.173**	1.401
	Others	3.680**	2.061**
Kin marriage	Yes		0.864**
Woman's Education	None		1
	Primary		0.780*
	Secondary		0.405**
	Higher		0.138**
HH Wealth Index	Poorest		1
	Second		0.955
	Third		0.920

Region	Richest Rural Urban		0.757* 1 1.081

For the age at marriage models, coefficients for all ethnic groups except for Punjabi are significant and positive, indicating that being any other ethnicity will increase the probability of being married before the age of sixteen (see table 7). Once we control for the socio economic background of women, we find that for all ethnicities other than Hindko, the odds of being married before the age of sixteen are higher than for Urdu speaking women. Compared to Urdu speaking women, women from Sindhi, Siraiki and Other ethnic groups have the highest odds of getting married early. Punjabi speaking women have marginally lower probability of getting married by the age of fifteen compared to Urdu speaking women. Among all other variables education has the strongest relationship with age at marriage; education reduces the likelihood of getting married early and the higher the level of education the lower the chances of getting married by the age of sixteen. Interestingly, wealth has a very weak positive relationship with age at marriage; only women from the richest quartile have a lower probability of getting married by 16 compared to women from the lowest quartile. The probability of being married by the age of 16 also decreases if your spouse is related to you. Contrary to what we expected, urban residence has no significant relationship with age at marriage in our model.

DISCUSSION

Throughout its history, Pakistan has been subject to ethnic conflicts and nationalist movements based on ethnicity, often along the lines of language. The government of Pakistan has faced demands for separate states or greater rights from Balochi, Pashto, and Siraiki speakers. To this day Pakistan has been unable to decrease or accommodate the ethnic differences in its provinces, which are not limited to politics, but extend to social and cultural systems. The ethnic variance in women's status within society is an illustration of these differences. Trends in the data allow us to speculate that ethnic groups differ in the value they attach to women's education, autonomy, reproduction and marital well being.

The findings of this analysis point to new understandings and surprising results about the importance of ethnicity in explaining one important marker of social values influencing fertility change in Pakistan – the age at marriage. It shows that women with higher education have lower age at marriage. Wealth status is found to have a relatively weak relationship with age at marriage. The likely reasons for this are twofold, one, because the economic standing of women's current household is not a perfect proxy for the economic status of their parent's household at the time of marriage. While most women currently living in wealthier marital households are likely to have come from wealthier parental household, this is not always the case. Second, because once differences in ethnic values and educational attainment are controlled for, wealth has a weak explanatory power for the timing of marriage.

Surprisingly, the relationship between consanguinity and age at marriage was not as we expected. Out model shows that those in a consanguineous union married later than those who did not. A possible explanation for this is that these unions are arranged very early in the girl's life and because the kinship bonds are very strong and there is a lot of trust that the union will indeed take place, these families feel more comfortable delaying their daughter's marriage. As girls move out of their home upon marriage there may be other incentives in terms of contributing to household productivity that explain why families in these situations delay the marriage.

Overall, the study finds that ethnicity, as measured by linguistic grouping, has a powerful impact on age at marriage. One way in which this is apparent is when the role of consanguineous marriage is considered. This practice by its very nature maintains strong kinship ties and perpetuates a closed group or sub-group within society. As a result families are able to exert strong social pressures that maintain traditional practices such as those related to family formation.

The analysis did not find that the relationship between urbanization and age of marriage to be significant. While on the surface this seems like an important finding as it counters the hypothesis that rural to urban migration will bring with it changes in traditional interpretations of cultural norms such as timing of marriage. The insignificant coefficient is more likely an indication of the high prevalence of migration due to marriage. A great proportion of migration in Pakistan is non-economic, and for women a larger proportion of it is reported for the purpose of marriage (Khan and Shehnaz 2000). Therefore, we speculate that many of the women residing in urban areas in the DHS sample may have moved from rural areas at the time of or after marriage, therefore confounding the effect of residence on age at marriage.

Age at marriage is an understudied and underappreciated explanatory for the underlying fertility trends and variation witnessed in Pakistan. The results of this study suggest several important areas of further study to unpack this relationship further. One area is to examine in more depth the cultural factors that impact the age at marriage – for example, the cultural norms related to women's status. The other major area to study is the effects of migration on values related to fertility behaviors of ethnic groups more rigorously, which of course requires more extensive data.

This paper confirms other findings in the literature that ethnic identity, defined on lingual lines, is a powerful force and one that can serve both as a cohesive factor that contributes to and reinforces positive social change and also as a barrier that can slow the pace of desired social development and change. The findings presented here have important implications for development policies which often do not take into account the influence of ethnic identity and

clan separation. It may be that interventions intended to promote fertility decline need to be tailored along lines of ethnic identity in the context of Pakistan.

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