



Changing Gender Roles and Spousal Agreement on Fertility Intentions

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ABSTRACT

Research has long recognised the importance of couple-level fertility preference and intentions for reproductive behaviour and outcomes but few studies have been able to actually examine couples. Attention to gender issues and spousal dynamics in reproductive intentions is especially imperative in a patriarchal society experiencing changing gender role dynamics such as Pakistan. The aims of this study are to examine change over time in couple-level of disagreement in childbearing intentions and to see how changes in gender roles in Pakistani society, as evident from increases in women's education, is associated with spousal agreement on fertility intentions. In this study, I used couple-level data from the Pakistan Demographic Health Surveys (PDHS) of 1990-91 and 2012-13. Results show that spousal disagreement declined between 1990 and 2012, but when disagreement occurred, it was usually that the husband wanted another child when the wife did not. I also found that the risk of spousal agreement is higher among couples in which the wife is more educated than her husband. Further, in cases of disagreement, the odds that only the husband wants another child relative to only the wife wants another child are higher among couples in which wife has secondary and higher education. The findings of this study highlight the importance of taking a couple-based approach to understand the couple's fertility decision-making dynamics.

INTRODUCTION

Decisions to have a child, and when, are essentially a dyadic matter, and so a couple's agreement on having a child is important in shaping their fertility intentions and desires as well as their actual reproductive behaviour. Although scholarship on reproductive attitudes and behaviours has long recognised the importance of both partners' fertility intentions and desires in shaping a couple's attitudes and behaviour [Stein, Willen, and Pavetic (2014); Rosina and Testa (2009); Thomson (1997); Morgan (1985); Fried and Udry (1979)], family planning research as well as policy formulation has until recently used data gathered from the female segment of the population. Conventional fertility analysis assumes women's responses about the frequency and timing of past childbearing are more accurate than men's reports as they are the actual bearer of children. Further, it is assumed that women's responses about their partner's fertility intentions is also accurate [Morgan (1985); Korenman, *et al.* (2002); Williams (1994); Khan, *et al.* (2007)] because couples can be considered a single entity who have similar fertility goals [Dodoo and Tempenis (2002); Thomson (1997); Greene and Biddlecom (2000)].

In societies in which fertility is almost entirely marital and divorce is uncommon, data on dates of birth and number of children collected from wives can largely be assumed to be identical for husbands. But for more subjective fertility-related information, this is less likely to be true. Though women's proxy reports about their partner's fertility goals are not problematic in most cases, it is also reasonable to expect that some wives might be unaware of their husband's fertility intentions if couples have not discussed their intentions with one another. This is evident from studies done on couples' reproductive intentions and behaviours that have shown discrepancies in husband and wife reports [Diro (2013); Becker (1996)]. Some degree of spousal disagreement on fertility intentions and preference is also inevitable because fertility intentions are not static and are reassessed over the individual life course [Rosina and Testa (2009)]. One of the reasons for the limited research on spousal concordance on fertility intentions and behaviour is lack of couple-level data. Though some surveys have questions on partners' attitudes and desires, research has shown that these responses are not very reliable, especially on subjective matters, and favour the respondent's own fertility attitudes and desires [Testa and Toulemon (2006); Thomson and Hoem (1998); Thomson (1997)]. This justifies examining couple-level fertility intentions to clearly understand the couple's fertility decision-making process [Stykes (2015); Stein, Willen, and Pavetic (2014); Morgan (1985)].

Attention to gender issues and spousal dynamics in reproductive intentions is especially imperative in a patriarchal society experiencing changing gender role dynamics. Pakistan, the sixth most populous country in the world, is one such society, where men enjoy greater decision-making authority both inside and outside the home sphere [Sathar (2000)]. Women in traditional societies like Pakistan have to submit to their partner's will, as the husband is usually the sole breadwinner. However, over the last two decades a shift is observed in the socio-cultural context of Pakistani society. The government is increasingly improving women's status by investing in women's education and designing and implementing policies to protect women's rights. For instance, during the last two decades a gradual improvement in female literacy occurred, with rates increasing from 21 percent in 1990 to 47 percent in 2011-12 [Pakistan Bureau of Statistics (2015)], although this level is still low and gender disparities remain large (men's literacy is at 70 percent). Women are also increasingly entering in the labour force, though most of them are working in the agriculture sector. The female labour force participation rate has increased from 16.2 percent in 2000-01 to 24.3 percent in 2011-12 [Pakistan Bureau of Statistics (2013)]. Women's share of wage employment in the non-agricultural sector has increased over time; it was 8 percent in 1999-00, 9 percent in 2001-02 and rose to 10.5 percent in 2010-11 [Planning Commission (2013)].

Pakistan is also interesting because of its stage in the fertility transition. After experiencing early fertility declines, fertility has stalled in recent years [Hardee and Leahy (2008); Sathar, *et al.* (2009)]. According to the transition theory, during the fertility transition women's desires for larger families may decrease more quickly than men's [Mason (2000)]. With increases in education and greater exposure to opportunities outside home, women may internalise smaller family size ideals, yet the gender dynamics of the society may remain pronatalist, possibly leading to more disagreement in a couple's fertility intentions. In Pakistan, the few studies on couples' fertility decision-making process are dated, preceding the dramatic increases in women's educational and economic status. Mahmood (1998) used the matched couple data set of PDHS 1990-91 and found that only 60 percent of the couples reported similar attitudes on different fertility-related questions and 40 percent had dissimilar fertility desires. She also found that desire for fewer children was higher among women but that women were more likely to disapprove of family planning, perhaps due to illiteracy and adherence to traditional ideals of large family. In an analysis of five Asian countries, including Pakistan [Mason (2000)], there was no evidence of influence of gender stratification on spousal agreement on desire to stop having children, but that in highly gendered societies, the husband's influence was stronger in deciding whether to use contraception than wives.

After a gap of almost 20 years, the Pakistan Demographic Health Survey (PDHS) 2012-13 has collected data on fertility intentions from both husbands and wives at household level, enabling researchers to re-visit the role of couples'

fertility intentions in an era of rapidly changing gender roles. In this paper, I will use this newly available data to not only look at how couples' education influences spousal agreement on fertility intention but also, using couple-level data from nearly twenty years earlier [PDHS 1990–91), to observe change over time in the relationship between couples' education and spousal agreement on fertility intentions. The focus on observing change over time is important because of a growing emphasis on women's over the past two decades in Pakistan at both governmental and household level.

Gender and Reproductive Decision-Making

Research has long recognised the importance of couple-level fertility preferences and intentions and their influence on couples' reproductive behaviour and outcomes [Rosina and Testa (2009); Morgan (1985); Fried and Udry (1979); Beckman, *et al.* (1983); Morgan (1985); Thomson (1997); Thomson and Hoem (1998)], even if few studies actually analyse both members of a couple. Men and women (and husbands and wives) may not necessarily share the same fertility attitudes and goals [Bankole (1995); Ezeh (1993); Lasee and Becker (1997)]. Becker (1996) studied multiple Demographic Health Survey (DHS) reports both in developed and developing countries and reviewed the congruence between husbands and wives on a number of reproductive measures. He found high level of agreement among couples on reproductive events such as number of children. However, he observed that husband-wife concordance on subjective matters of fertility such as desired family size, partner's fertility intentions, and similar measures was between 60-70 percent. Other studies have found similar findings [Salway (1994); Hohmann-Marriott (2009)].

The research on spousal concordance on fertility intentions is inconclusive on how fertility decisions are made in cases of disagreement among couples. However, most of the research on spousal agreement on fertility intentions and preferences is carried out in western countries, particularly the US. It is clear from these studies that "spousal dominance is a function of the prevailing socio-cultural system" [Bankole (1995)]. For example, some studies found that in cases of discordant fertility intentions, wives' characteristics have greater influence on a couple's fertility intentions than husbands' characteristics because women enjoy legitimate control in areas of contraceptive use and fertility [Beckman (1984); Rosina and Testa (2009); Miller and Pasta (1994)]. For instance, being employed increases the risk of conflict among couples on fertility intentions and gives women more decision-making authority regarding having their first child [Rosina and Testa (2009)]. Conversely, Stein, *et al.* (2014) found that effect of male partner fertility intentions about whether to have a child was stronger than the female partner's in Germany. Jansen and Liefbroer (2006) and Thomson (1997) observed that fertility intentions and

attitudes of both partners play an equal role in making fertility decisions. They argued that in modern societies couples enjoy equal bargaining power and thereby have equal influence on each other decisions.

However, research on the influence of a couple's individual and shared characteristics on spousal agreement on fertility intentions is rare in developing countries. In societies marked with high gender inequalities, men significantly influence the reproductive decision making particularly when husband and wife have discordant fertility preferences. For instance, Ezeh (1993) found that husband's characteristics, particularly attitudes toward contraception, strongly influence the wives' attitude toward contraception but reverse is not true. Similarly, DeRose and Ezeh (2005) found that husband's education strongly influences wife's intention to stop childbearing than her own education.

Changing Gender Roles and Spousal Agreement on Fertility Intentions

Changing gender roles also make understanding spousal agreement on fertility behaviours and intentions important. Women's increased participation in higher levels of education—and the greater economic opportunities this affords them—provides more bargaining power and decision-making authority within the household [Rosina and Testa (2009); Stein, *et al.* (2014)]. In particular, education is believed to provide women with the tools and resources to make informed decisions [Jejeebhoy (1995)], along with more options that can affect their childbearing intentions or the desired number of children [Scheon, *et al.* (1999); Stein, *et al.* (2014)]. An extensive body of research has found that women's empowerment, especially women's education, influences a range of reproductive attitudes and behaviours [Edmeades, *et al.* (2012); Mason and Smith (2000); Upadhyay and Karasek (2012); Kishor (2000); Schuler, *et al.* (1997); Bloom, *et al.* (2001); Bbaale and Mpuga (2011); Uchudi (2001)]. Educated women are socialised in an environment (such as school, work place) that favours smaller family ideals and they have skills and behavioural norms to accept new ideals and also have great aspirations for themselves as well as for their children. Educated women, therefore, challenge the traditional family norms and are better able to make informed choices. In this perspective, it is reasonable to assume that with increases in education, women's relationships with their husbands, particularly communication, will improve and become more egalitarian and that the value and demand of having more children will decrease [Uchudi (2001)]. Thus, I hypothesise that spousal disagreement on fertility intentions will be higher among couples in which women are highly educated. The desire to have an additional child will be lower among educated women because of the opportunity costs they will incur by having a child.

Hypothesis 1: Spousal disagreement on fertility intentions will be higher among couples in which wife is highly educated than wives with no formal education.

Hypothesis 1a: When disagreement occurs, women with higher education will be more likely to have husband who want additional child than women with no formal education.

Couples' Educational Homogamy and Spousal Agreement on Fertility Intentions

As the desire to have a child is a future event, in this context, fertility intentions are influenced by individual as well as by partner characteristics such as education, economic status, and the values a person attach to desire for children. While the inverse relationship between women's education and fertility is well established in the literature [see e.g. Jeejhboy (1995); Uchudi (2001); Schultz (1993)], less is known about the influence of partner's or couples' relative education on fertility attitudes and behaviours of women. [Basu, Nitsche, *et al.* (2015)]. Couples' educational differences, particularly when the husband is more educated and older than his wife, influence reproductive attitudes and preferences [Gebreselassie and Mishra (2007)]. For instance, studies in developed countries have found that childlessness is more common among less educated men [Kravdal and Rindfuss (2008); Nisen, *et al.* (2013); Oppermann (2014); Stanfors (2014)].

However, this may not be true in less industrialised societies. Educational differences between husband and wife is an indicator of relative power and significantly influences fertility attitudes and behaviours in various settings [Wolff, *et al.* (2000); Beegle, *et al.* (2001); Omondi-Odhiambo (1997); Uchudi (2001); Bbaale and Mupga (2011); Adamchak and Mbizvo (1994)]. For instance, Beegle, *et al.* (2001) found that when a woman is more educated than her husband, she is more likely to utilise maternal health care services in Indonesia. Similarly, DeRose (2003) and DeRose and Ezeh (2005) found that men's education has more influence on wives' fertility intentions but not vice versa in Ghana. Therefore, it may be reasonable to expect that gender differences in fertility intentions may operate through a couple's relative education. In other words, it is possible that differential educational pairing of partners may influence their fertility intentions and may create more disagreement.

As is common in developing countries, educating males is a priority because sons are important for old age security, and so men's education (and thus husband's) education tends to be higher than women's. Further, most of the marriages are arranged by parents and cousin's marriages are very common in Pakistan. Marriages are largely decided on the basis of patrilineal lineage, and educational and age differentials are not considered important. As a result, women tend to "marry up" and men tend to "marry down" or with partner of equal socio-economic status. With the changes happening at the societal level as women's education increases, bringing them more economic potential, the

dynamics of assortative mating are changing and women are increasingly “marrying down” [Schwartz and Hanb (2014)]. However, the negative influence of women’s education on fertility that is seen generally is not necessarily applicable [Ibisomi and Odimegwu (2011)]. Instead, the socio-cultural environment of the society may protect men’s dominance over reproductive matters because women’s improving educational status must be weighed against a backdrop of patriarchy. Put differently, women’s education may bring them more economic independence and general decision-making power but does not necessarily increase their ability to make reproductive decisions within marriage [DeRose, *et al.* (2002)]. This prevailing gender inequality often compels women to adjust their fertility intentions because of actual or anticipated conflict with their husbands or due to their desires to conform to normative expectations [Thomson (1997); DeRose and Ezeh (2005); Basu]. However, with the changes happening at the societal level, it seems likely that couples may have more disparate fertility goals and thereby more disagreement on fertility intentions in more recent years. Further, the disagreement will be more pronounced among couples which the wife is more educated than her husband. A wife’s higher status may pose a significant threat to a husband’s gender identity as the breadwinner and household head, leading to conflicting fertility intentions [Tichenor (2005)]. Therefore, in this study, I use couple educational homogamy as a measure of relative power to examine whether disagreement is higher in non-normative couples (i.e., those in which the husband has less education than the wife). Further, I expect that husbands will be more likely to desire an additional child to assert male dominance.

Hypothesis 2: Spousal disagreement on fertility intentions will be higher among couples in which wife is more educated than her husband.

Hypothesis 2a: When the disagreement occurs, husband will be more likely to desire another child in couples in which husband is less educated than his wife.

Diffusion and Spousal Agreement on Fertility Intentions

Pakistani society, however, is evolving and increasingly accepting of smaller family ideals as diffusion processes occur through other means, such as government programs and the media [Casterline (2001); Bongaarts and Watkins (1996)]. The diffusion perspective holds that it is first the attitudes, behaviours, and values of an innovative and educated group that favours fertility decline that then diffuses to other groups such as uneducated individuals through media exposure or through direct contact with educated women [Casterline (2001); Cleland (2001)]. Just two or three decades ago, it was rare for women to receive any level of education, making higher levels more selective and perhaps more influential for an individual women’s own fertility ideals and behaviour. As

education expanded, higher levels of education have become more common for women, and further, women's status more generally has improved, perhaps weakening the impact of women's own education level. Therefore, it is of particular interest to know whether individual-level education still has the same influence on reproductive decision making, or whether the education gradient of reproductive decision making has declined over time?

Hypothesis 3: Wife's education has a stronger influence on disagreement among couples on having a(nother) child in 1990-91 than in 2012-13.

Hypothesis 3a: When the disagreement occurs, women with higher education will be less likely to desire a(nother) child in 2012-13 than in 1990-91.

Other Factors Related to Fertility Intentions

Of course, education and spousal homogamy are not the only factors that influence plans for additional children. Age, parity, employment status, place of residence, experience of child mortality, and household wealth status are all associated with fertility intentions [Hakim (2003); Hayford and Morgan (2008); Peristera and Kostaki (2007)]. Spousal agreement on fertility intentions varies by age. The desire to have additional children declines with increasing age for both men and women. Large spousal age differences (common in patriarchal societies) negatively affect spousal agreement on fertility intentions, particularly when the wife is younger than her husband. This in turn compromises a women's ability to negotiate and make informed reproductive choices [Longfield, *et al.* (2004); Luke (2005); Kaestle, *et al.* (2002)]. Younger women are more likely to be in agreement with their husbands to have additional children because they are more influenced to follow the social norms [Hagewen and Morgan (2005); McQuillan, *et al.* (2014)]. In general, there is an association between women's work and fertility [Joshi (2002)], but there are inconsistencies. For instance, Bruce and Dwyer (1998) found that women's employment has little effect on their control over their fertility when women work merely due to economic pressure. Others argued that it is not the women's employment per se but their control over their earnings that influences the demand for children [Kirtz and Mankinwa-Adebusoye (1993); Mahmud (1993)]. Fertility intentions may also be linked parity, though the evidence is mixed. The accuracy of intentions varies either by desired parity or by parity at the time intentions are recorded [Quesnel-Vallée and Morgan (2003); Thomson (1997); Testa (2014)]. McQuillan, *et al.* (2014) found that the association between parity and fertility intentions are significant and negative; fertility intentions decline with each additional child. Socio-economic differences also influence couples' fertility intentions. For example, couples residing in urban areas are less likely to desire for another child [Rabbi (2014)] and women belonging to a high wealth household are more likely to desire for smaller family and are better able to achieve their fertility

goals than poor women probably because of better access, resources, and knowledge about contraception [Mahmood and Ringheim (1998); Bbaale and Mpuga (2011); NIPS (2013); Hayford (2012)]. Also, previous experience of child mortality may influence couples' agreement on having another child, as couples may want to replace their deceased child [Dodoo (1993)].

DATA AND METHODS

In this study, my unit of analysis is the couple. In Pakistan, marriage is universal, so all couples are married couples and all fertility is marital fertility. In both the PDHS 1990-91 and 2012-13, information on fertility preferences (discussed below) is collected from both men and women, making this the ideal data set to study how changes in gender roles influences couple-level decision-making for reproductive behaviours. For the PDHS 1990-91, I have selected for analysis a matched set of currently married, fecund women aged 15-49 and their husbands (of any age). The initial sample size was 1,365 married couples, but there were several restrictions that reduced the sample size. First, I dropped cases in which a husband had more than one wife (n=67). I also excluded women who were sterilised or declared infecund (n=92). I also dropped men who were sterilised or those who reported that their wives were infecund (n=36) and those who had missing information on the future fertility preference variable (n=7). This yielded a final analytical sample of 1,163 couples.

For the PDHS 2012-13 couple analysis, a matched set of currently married, fecund women aged 15-49 and their husbands aged 15-49 were selected, yielding a sample size of 2,798 couple. In 134 cases, a husband had more than one wife, so I dropped these cases. I also dropped women who were sterilised or declared infecund (n=287) and those who had missing information on the fertility preference question (n=5). I also dropped men who were sterilised or reported that their wives were infecund (n=22) and had missing information on future fertility preference variable (n=3). My final analytical sample is therefore 2,347 couples.

As the main objective of this study is to examine change over time in couples' agreement in fertility intentions, I pooled both datasets, and this yielded the pooled analytical sample of 3,510 couples. The main objective of pooling the datasets is not only to increase the sample size to obtain more precise estimates but also to investigate the effect of time. The gap of more than twenty years between two surveys facilitates observing change in gender relations which may affect reproductive intentions and decision making. To capture the structural change over time, I included survey year as a dichotomous variable (with 1990-91 as the reference category) in multivariate analysis.

Dependent Variables

Couple's Agreement in Fertility Intentions: The DHS asks both men and women about their future fertility intentions "Would you like to have (a/another)

child or would you prefer not to have any (more) children?” However, the question wording is slightly different for pregnant and non-pregnant women and also for men whose wives were pregnant at the time of survey. Currently married, non-sterilised women who were not pregnant and men whose wives were not pregnant were asked “Would you like to have (a/another) child, or would you prefer not to have any (more) children?” Currently married, non-sterilised, pregnant women were asked “After the child you are expecting now, would you like to have another child, or would you prefer not to have any more children?” For men, whose wife/wives were pregnant at the time of survey, the DHS asks “After the (child/children) you and your (wife (wives)) are expecting, would you like to have another child, or would you prefer not have any more children?” The response categories were (1) have another child; (2) no more; (3) undecided/don’t know. Respondents who were undecided are categorised as they want a(nother) child. Studies on fertility intentions and desired family size have shown that respondents who give a non-numeric response or were undecided are more similar in characteristics to those who wanted more children and did not have a clear wish to stop childbearing [Becker and Sutradhar (2007); Mahmood and Ringheim (1997); Olaleye (1993)]. Retaining these cases is important, as a substantial percentage (40 percent) of the respondents in 1990 gave a non-numeric response to question on fertility intention. However, the percentage of non-numeric responses has dropped significantly over the period of time as evident from various studies on DHS [Bongaarts (2011)]. Still, a non-negligible percentage of men and women (13 percent) responded that they were undecided or didn’t know in PDHS 2012-13.

For this study, I have two versions of this measure. The first dependent variable is a simple dichotomous variable contrasting couple’s agreement versus disagreement on fertility intentions. I constructed couple agreement indicators by comparing the responses of wives with those of their husbands. The couple-level construct of fertility intention is defined as: *Agreement on fertility intentions* in which both partners either want a(nother) child or don’t want a(nother) child versus *disagreement on fertility intentions* in which either only wife wants or only husband wants a(nother) child. I am also interested which partner wants additional children when there is disagreement. Therefore, the second dependent variable measures, among *those who disagree, who wants a child?* This is again a binary construct: only wife wants versus only husband wants a(nother) child.

Independent Variables

Education: The two main independent variables are wife’s education and couple educational homogeneity. *Wife’s education* is categorised into three categories: no education (reference category), primary education (grade 1-5), secondary and above education (grade 6 & above). *Couples’ educational*

homogamy is categorised as: have same level of education, wife is more educated than husband, husband is more educated than wife, and both have no formal education (reference).

Other Control Variables

Although the main interest is to investigate how gender and education influence couple agreement about future fertility, I controlled for socioeconomic and demographic variables that are related to fertility intentions. The control variables are husband's age, couple's age difference, women work status, parity (number of living children), experiencing any child death, rural-urban residence, and household wealth.

Husband's current age is represented by a three-category measure: below 35 years old (reference), 35-44 years old, and 45 years old and above. *Couples' age difference* is also included in the analysis and is categorised as: wife is older by 1-9 years, wife is younger by 0-4 years (reference), wife is younger by 5-9 years, and wife is younger by 10+ years. *Women's work status* is a dichotomous measure, with 0 for not working, and 1 for working. A dummy variable for *experiencing any child death* is also included in the analysis. To account for the *urban-rural* differentials, I included a dummy for urban-rural residence with rural as reference category. *Household wealth* is based on information on the wealth index as provided in the PDHS 1990-91 and PDHS 2012-13, constructed from information on household asset data including ownership of a number of consumer durables as well as standard of living and dwelling characteristics [National Institute of Population Studies (1991, 2013); Mahmood and Bashir (2012); Rutstein and Johnson (2004)]. The wealth index originally consisted of five categories (poorest, poorer, middle, higher, and highest). For the sake of simplicity, I merged the poorest and poorer into one category of 'poor' and higher and highest into 'high,' with poor being the reference category. A substantial number of couples disagree on number of living children (110 in 1990 and 81 in 2012); therefore, I included a dummy for disagreement on number of living children to account for this because disagreement among couple on number of living children affects their fertility preferences differently. To account for current pregnancies, a dummy for currently pregnant women is included in the analysis.

Analytical Strategy

The aim of the paper is to observe change over time in couples' fertility agreement by women's actual and relative education level. I used both bivariate and multivariate analytical techniques to study the association between couples' fertility intentions and couples' education. A bivariate analysis is used to identify patterns of associations between couples' fertility intentions and couples' education (wife's education and couples' educational homogamy) and

their individual and shared background characteristics across surveys. I then moved to multivariate analysis. Multivariate analysis is done in two stages. In the first stage, I looked at the relationship between couple agreement vs. disagreement in fertility intention by wife's education and couple's educational homogamy controlling for all other background couple-level, individual, and shared variables. In other words, in the first stage the dependent variable is defined as agreement vs. disagreement in fertility intentions among couples irrespective of who disagree.

In the second stage, I looked at the couples who have discordant fertility intentions. In this case, the dependent variable is again dichotomous in nature and is defined as only husband wants a(nother) child vs. only wife wants a(nother) child (reference). The main objective of this second analysis is to determine, among those with disagreement, the pattern of disagreement by education. In other words, does women's absolute and relative education give them more power and say in shaping their fertility intentions and thereby lead to disagreement on fertility intentions?

Because the analyses use a binary dependent variable, I used logistic regression. Logistic regression analysis is a multivariate technique which allows for estimating the probability of occurrence of an event, by predicting a binary dependent variable from a set of explanatory variables. The logistic regression model is of the form,

$$\ln \left[\frac{\pi_i}{1-\pi_i} \right] = X' \beta = \sum b_i x_i$$

where π_i is the probability of couples' disagreement in fertility intentions in case of first stage analysis and probability that husband wants a(nother) child at second stage of analysis, b_i are estimated regression coefficients, and x_i are the couples' individual and shared background characteristics.

For both set of analyses, Model 1 is the base model and includes survey year, wife's education, and couple's educational. Model 2 adds all the couple-level, individual, and shared characteristics. In Model 3, I include the interaction of wife's education with survey year to test whether the education gradient of disagreement has changed or remained constant over time.

Further, I employed regression-based decomposition technique for non-linear models (an extension of the Blinder– Oaxaca decomposition method for non-linear regression models such as logistic regression models) [Fairlie (2005); Power, *et al.* (2011)] to identify the factors that influence spousal agreement on fertility preferences over the last two decades¹. Decomposition analysis quantifies change over time or across groups into components attributable to compositional changes (i.e., differences in the proportion with various

¹Decomposition analysis is done on full sample only (i.e., the analysis predicting spousal agreement versus disagreement on fertility preferences) to identify the factors responsible for change in spousal agreement on fertility preferences at population level.

characteristics) between surveys and components attributable due to change in the effect of explanatory variables (i.e., differences in the coefficients due to changes in population behaviour) [Blinder (1973); Oaxaca (1973); Powers, *et al.* (2011)]. I used the Stata *mvdcmp* package developed by Powers, *et al.* (2011) to carry out the multivariate logistic regression decomposition. Both changes in population composition and population behaviour related to spousal agreement on fertility preferences (effect) are important. In this study, I used regression based decomposition analysis to see how much change in couple's agreement on having another child is due to changes in women's and couple's relative characteristics, particularly women's absolute and relative education, and how these factors shape differences across surveys conducted at different times. All the analysis is weighted to account for clustering due to sampling design and non-response.

RESULTS

Descriptive Results

Table 3.1 presents the percentage distribution of individual and couple's shared characteristics, along with disagreement in fertility intentions, by survey years. The majority of couples agree about their future fertility intentions, with a slight increase between 1990 (75 percent) and 2012 (82 percent). Disagreement among couples on fertility intentions declined by 27 percent from 1990 to 2012, though when a couple disagrees, in more than two-thirds of the cases it is because the husband wants a(nother) child both in 1990 and 2012.

As expected, women's education improved between 1990 and 2012. In 1990, only 11 percent of women had a secondary or higher level education, increasing to 30 percent by 2012. Around 82 percent of women had no formal education in 1990, declining to 54 percent by 2012. The percentage of couples having the same level of education doubled between 1990 and 2012, with a substantial decline in the percentage of couples in which neither member had any education (47.8 percent vs. 22.3 percent). However, a gendered pattern is evident in terms of couple's educational homogamy – in around 40-45 percent of couples in both time periods, the husband is more educated than his wife. In both 1990 and 2012, a larger proportion of husbands were in the youngest age category except that in 2012, only 16 percent of the husband were above 45 years old. This is due to the differential male sample selection in 1990 and 2012; recall that there were age restrictions for husbands (up to age 49) in 2012 but not in 1990. The pattern of couple's age difference is similar across surveys, although the proportion of couples in which the wife is older nearly doubled. Similarly, the proportion of women who were 10 or more years younger than their husbands dropped by half. In 2012, more than one quarter of the women were in work force. There was a large decline in the percentage of couples with

Table 3.1

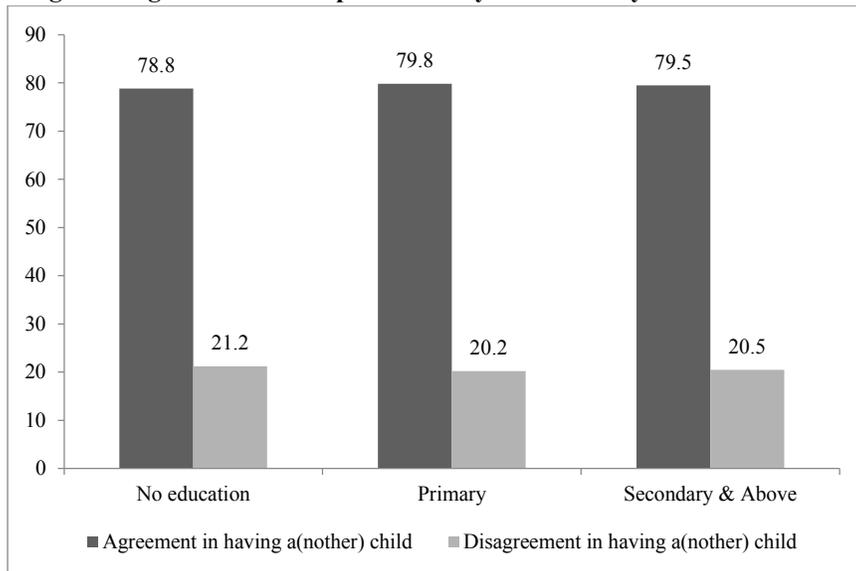
Sample Characteristics of Couples by Survey Year: PDHS 1990-91 & 2012-13

Characteristics	1990	2012
Couple fertility intentions		
Agreement (both want or both don't want a(nother) child)	75.1	81.7
Disagreement (either husband or wife wants a(nother) child)	24.9	18.3
Only wife wants	30.1	32.6
Only husband wants	69.9	67.4
Wife's education		
No formal education	81.8	53.7
Primary	7.1	16.6
Secondary and above	11.1	29.7
Couple's educational homogeneity		
Both have no formal education	47.8	22.3
Husband is less educated than wife	2.7	10
Husband is more educated than wife	39.8	45.3
Both have same level of education	9.7	22.4
Wife's age		
15-24	31.29	24.3
25-34	45.56	44.1
35+	23.15	31.6
Husband's age		
Below 35	46	50
35-44	29.4	33.5
45 & above	24.6	16.5
Couple's age difference		
Wife is older by 1-9 years	5.4	11.5
Wife is younger by 0-4 years	35.9	43.2
Wife is younger by 5-9 years	34.6	32.7
Wife is younger by 10+years	24.1	12.6
Wife's Work Status		
No	83	73.3
Yes	17	26.7
Number of living children		
0-2	35.2	47.6
3	14.8	15.3
4 and above	50	37.1
Experienced any child death		
No	69.7	78.6
Yes	30.3	21.4
Place of residence		
Rural	69.4	64.8
Urban	30.6	35.2
Household Wealth		
Poor	43.1	37
Middle	19.6	18.1
High	37.3	44.9
Currently Pregnant		
No	83.1	85.4
Yes	16.9	14.6
Disagreement on Number of Living Children		
No Disagreement	89.6	97.3
Disagreement	10.4	2.7
Total	1,163	2,347

four and more children and in the percentage of couples who experienced child mortality across surveys. The majority of couples resided in rural areas in both survey years, and less than half belonged to high-wealth households. The disagreement among couple on number of living children was high in 1990 (10 percent) but dropped dramatically by 2012 (2.7 percent).

Figure 3.1 shows the relationship between wife's education and agreement in couple's fertility intentions. The graph shows that there is no variation in couple's fertility intention by wife's education. The bivariate relationship between agreement on couple's fertility intentions and women's education does not support my hypothesis that disagreement on fertility intentions would be higher among couples in which the wife has higher education (Hypothesis 1a). While disaggregating by survey year would have been preferable, small cell sizes by wife's education precluded this, particularly for 1990 sample. For instance, there were only 23 women with primary education and 41 women with secondary and above education who have reported disagreement on having a(nother) child in 1990.

Fig. 3.1. Agreement in Couple's Fertility Intentions by Wife's Education



Multivariate Logistic Regression

First Stage Analysis: Agreement vs. Disagreement in couples' fertility intentions

Table 3.2 presents the pooled logistic regression analysis of couples' disagreement on fertility intentions. Table 3.2 includes two models. Model 1 includes the wife's education and couple educational homogeneity along with

dummy for survey year (Hypothesis 1 & Hypothesis 2); in Model 2, I added all individual and couple-level shared characteristics as control variables. I also tested an interaction of wife's education with survey year (not shown) to test whether the education gradient is more strongly associated in the 1990s than in 2013 with spousal disagreement, discussed below (Hypothesis 3).

Table 3.2

Pooled Logistic Regression Predicting Couple's Agreement on Fertility Intention from Couple's Education and other Individual and Shared Characteristics

Variables	Model 1 Disagreement vs. Agreement	Model 2 Disagreement vs. Agreement
Year (Omitted=1990)		
2012	0.68*	0.82
Wife's Education (Omitted=No formal education)		
Primary	0.63*	0.62*
Secondary & Above	0.72	0.76
Couple Educational Homogamy (Both have no formal education)		
Wife is more educated than husband	2.10*	2.36*
Husband is more educated than wife	1.15	1.24
Both have same level of education	1.22	1.44
Husband's Age (Omitted=below 35)		
35-44		0.92
45 and above		0.8
Couple's Age Difference (Omitted=wife is younger 0-4 years)		
Wife is older by 1-9 years		1.09
Wife is younger by 5-9 years		1.18
Wife is younger by 10+ years		1.05
Wife's Work Status (Omitted=No)		
Yes		0.70*
Parity (omitted=0-2)		
3		3.07***
4 and above		3.21***
Experienced Child's Death (omitted=none)		
Yes		1.12
Place of Residence (Omitted=rural)		
Urban		1.04
Household Wealth (Omitted=poor)		
Middle		0.68*
High		0.89
Currently Pregnant (Omitted=No)		
Yes		1.51**
Disagreement on number of living children (omitted= no disagreement)		
Disagreement		1.68*
Constant	0.32***	0.13***
N	3,510	3,510

+ (p<0.10), * (p<0.05), ** (p<0.01), *** (p<0.001).

Model 1 shows the odds of disagreement among couples on having a(nother) child relative to agreement has declined significantly between 1990 and 2012. Contrary to expectations (Hypothesis 1), the odds of disagreement on having a(nother) child are 37 percent lower for wives with primary education than wives with no formal education. Interestingly and as expected (Hypothesis 2), the disagreement among couples on fertility intentions is 2.1 times higher for those in which wife is more educated than her husband relative to couples with no formal education.

Model 2 includes all the individual and couple-level socio-demographic characteristics to see how these variables influence the disagreement among couples on fertility intentions. Including these variables does not change the relationship between the variables of interest as the odds ratios for wife's education and couple's educational homogamy essentially remain unchanged. As in Model 1, wives with primary education are 38 percent less likely to report disagreement on fertility intentions than wives with no education. Similarly, couples in which the wife is more educated than her husband have higher odds of disagreement on having a(nother) child ($OR=2.36$) as compared to couples in which both husband and wife have no formal education. The odds of disagreement remain higher for couples in which wife is more educated than her husband even when the reference category for couple's educational homogamy is changed. However, the coefficient for time variable (i.e. year) becomes insignificant in Model 2, indicating that the level of disagreement among couples on fertility intentions is almost the same for 1990 and 2012 after accounting for the shifts in socio-demographic characteristics.

The odds of disagreement among couples are significantly lower for working women than non-working women. Having more than two children substantially increases the odds of disagreement among couples about having another child ($OR=3.07$ and 3.21 for couples with 3 and 4 or more children, respectively). Couples who belonged to the middle household economic strata are significantly less likely to disagree on having a(nother) child than couples belonging to poor households. Currently pregnant women are significantly more likely to report disagreement on fertility intentions than non-pregnant women ($OR=1.68$). Couples who disagree about the number of living children are 1.7 times more likely to have disagreement on fertility intentions as compared to couples who agree on the number of living children.

I also examined the interaction between survey year and wife's education to observe how women's education influenced spousal disagreement in fertility intentions over time (not shown). Recall that it was rare for women to receive any level of education a couple of decades ago in Pakistan, making higher levels more selective and perhaps more influential for an individual women's own fertility ideals and behaviour. As education expanded, higher levels of education have become more common for women, and further, women's status more generally has improved, perhaps weakening the impact of women's own

education level. Therefore, I was expecting that as the diffusion of smaller family ideals through different means of communication other than education occurs, the educational differences in spousal disagreement will decline over time. However, the interaction was not significant and did not alter the direction and significance of other variables.

Second Stage Analysis: Discordant Fertility Intentions (Husband wants a(nother) child vs. Wife wants a(nother) child)

Table 3.3 shows the result of pooled logistic regression models for those couples who disagree on having a(nother) child; that is, which partner wanted a(nother) child. Table 3 has three models. Model 1 includes a dummy for year variable to observe change over time, wife's education, and couple educational homogamy (Hypothesis 1a & Hypothesis 2a). Model 2 adds all individual and couple-level shared socio-demographic characteristics. In Model 3, I include the interaction of wife's education with survey year to test whether the education gradient is more strongly associated in the 1990s than in 2013 with disagreement (Hypothesis 3a).

Model 1 shows that when the couples disagree, there is no difference in who (husband or wife) wants another child over time. The odds that only the husband wants a(nother) child are 3 times higher for women with secondary and above education than their peers with no formal education (Hypothesis 1a supported). The results do not support the hypothesis (Hypothesis 2a) that husbands would be more likely to intend for a(nother) child in couples in which husband is less educated than his wife. Husbands are less likely to intend an additional child in couples who have same level of education compared to couples with no education (OR=0.31). The odds ratios of the variables of interest essentially remains unchanged in Model 2 which controls for all individual and couple level socio-demographic characteristics except that the odds ratio for women with secondary and above education has increased to 4.2 (from 3.1). Couples in which the husband is 45 years old or more are more likely to have husbands who want an additional child relative to their wives than couples in which husband is less than 35 years old. In Model 3, I added the interaction between survey year and wife's education to examine the changing influence of women's education on spousal agreement over time. The main effect of wife's education becomes insignificant after the inclusion of the interaction term. However, the interaction between survey year and women with secondary education is marginally significant ($p < 0.10$), suggesting that the impact of women's higher education (secondary and above) is getting stronger over time. In other words, over time women with secondary and above education are more likely to have husbands who want another child relative to their own desire to stop childbearing. This result support my hypothesis (Hypothesis 3a) that the desire to have another child declined among educated women over time.

Table 3.3

Pooled Logistic Regression Predicting Who (Husband or Wife) Want Another Child by Wife's Absolute and Relative Education: PDHS 1990-91 & 2012-13

Variables	Model 1	Model 2	Model 3
	Only husband wants vs. Only wife wants	Only husband wants vs. Only wife wants	Only husband wants vs. Only wife wants
Year (Omitted=1990)			
2012	0.86	0.85	0.72
Wife's Education (Omitted=No formal education)			
Primary	1.23	1.38	1.58
Secondary & Above	3.14*	4.22*	1.97
Couple Educational Homogamy (Both have no formal education)			
Husband is less educated than wife	0.53	0.49	0.47
Husband is more educated than wife	0.94	0.95	0.97
Both have same level of education	0.31+	0.34+	0.37+
Husband's Age (Omitted=below 35)			
35-44		1.26	1.28
45 & above		1.90+	1.97+
Couple's Age Difference (Omitted=wife is younger 0-4 years)			
Wife is older by 1-9 years		1.30	1.31
Wife is younger by 5-9 years		1.09	1.10
Wife is younger by 10+ years		1.19	1.19
Wife's Work Status (Omitted=No)			
Yes		1.31	1.33
Parity (omitted=0-2)			
3		1.42	1.41
4 and above		1.66	1.70+
Experienced Child's Death (omitted=none)			
Yes		0.85	0.83
Place of Residence (Omitted=rural)			
Urban		1.07	1.1
Household Wealth (Omitted=poor)			
Middle		0.98	0.98
High		0.76	0.72
Currently Pregnant (Omitted=No)			
Yes		0.9	0.91
Disagreement on number of living children (omitted= no disagreement)			
Disagreement		0.66	0.62
Interaction between survey year and wife's education (omitted=1990 & No formal education)			
Primary			0.89
Secondary and Above			2.84+
Constant	2.34***	1.35	1.45
N	764	764	764

+ (p<0.10), * (p<0.05), ** (p<0.01), *** (p<0.001).

Decomposition Analysis

Recall that spousal disagreement on having another child has declined between 1990 and 2012, from 25 percent to 18.3 percent (Table 3.1). It is possible that the compositional shifts in the population play a large role in the decline. To calculate the amount of change attributable to compositional changes versus changes in coefficient (effects of sociodemographic characteristics) for each variable, I performed decomposition analysis based on the logistic regression models run separately for PDHS 1990 and 2012 (Table A3.1 in appendix). I present two alternative sets of estimates (Table 3.4). The only difference is that the first set of estimates hold population composition at 2012 (for the rates component) and coefficients at 1990 (for the composition component) (Col 2 & 3) whereas the second set of estimates holds population composition at 1990 and coefficients at 2012 (Col 5 & 6). Difference between two estimates are mainly due to “differences in the weights applied to changes in coefficients or composition” (Hook et al., 2004).

Table 3.4

Decomposition Analysis of Change in Spousal Agreement Among Married Couples 1990-2012

	Coefficients Fixed at 1990		Coefficients Fixed at 2012	
	Due to difference in Characteristics (Comp.)	Due to difference in coefficients (Rates)	Due to difference in Characteristics (Comp.)	Due to difference in coefficients (Rates)
Spousal Disagreement	E	C	E	C
Wife's Education (Omitted=No formal education)				
Primary	8.59	-31.76	17.65	-44.21
Secondary & Above	12.88	11.92	9.67	18.94
Couple Educational Homogamy (Both have no formal education)				
Wife is more educated than husband	-14.34*	-17.83	-5.59	-39.17
Husband is more educated than wife	-1.34	84.60	-3.77	57.28
Both have same level of education	-5.65	57.92	-21.24	79.71
Husband's Age (Omitted=below 35)				
35-44	0.55	15.81	0.14	10.73
45 and above	-4.05	65.43	0.03	26.09
Couple's Age Difference (Omitted=wife is younger 0-4 years)				
Wife is older by 1-9 years	-0.56	13.95	-3.81	17.84
Wife is younger by 5-9 years	-0.23	196.71	1.99	110.42
Wife is younger by 10+ years	11.94	-263.15	-12.61	-81.56
Wife's Work Status (Omitted=No)				
Yes	8.20	-4.60	9.23	-4.31
Parity (omitted=0-2)				
3	-0.90**	199.73	-2.27***	122.73
4 and above	29.02***	401.07	51.54***	177.06
Experienced Child's Death (omitted=none)				
Yes	2.51	-49.93	-0.28	-20.95
Place of Residence (Omitted=rural)				
Urban	0.51	105.11	-2.60	71.87
Household Wealth (Omitted=poor)				
Middle	-1.72*	77.23	-0.65	42.46
High	3.39	90.99	-0.12	65.16
Currently Pregnant (Omitted=No)				
Yes	2.24*	-0.26	2.36	-0.13
Disagreement on number of living children (omitted= no disagreement)				
Disagreement	5.04	48.65	12.54	7.59
Constant				
		-957.67		-569.77
Total	56.09	43.91	52.22	47.78

Note: (1) Results based on regression models (Tables A3.1). (2) Estimates are based on STATA package mvddemp described in Powers, Yoshioka and Yun (2011).

The overall decomposition indicates that 56 percent of the overall change in spousal agreement on having another child is attributable to compositional changes in the population, and 44 percent of the change in contraceptive use is attributable to differences in the effects of characteristics (coefficient changes). The most important compositional factors that contributed significantly are parity, couple educational homogamy, household wealth, and currently pregnant women. The analysis also shows that the contribution due to the difference in the coefficients (effects) is insignificant, suggesting that the compositional changes are more important in explaining the observed decline in spousal disagreement on having another child.

DISCUSSION

Having a child is essentially a couple-level decision, but studies on couples' fertility decision making are rare. Although it has long been recognised that both partners' fertility desires and intentions influence a couples' reproductive behaviour, the majority of research has focused on women. The key assumption from this literature is that couples have similar fertility intentions and therefore a wife's report about her husband's fertility desires and goals are fairly accurate [e.g. Diro and Afework (2013)]. However, in patriarchal societies such as Pakistan where men are the main decision-makers, men's attitudes and desires toward fertility shape the fertility outcome of society [DeRose, *et al.* (2002); Mason and Smith (2000)]. In this perspective, a wife's report on reproductive *events* can largely be assumed to be identical for husbands. But for more subjective fertility related matters such as desire to have an additional child, this is less likely to be true.

To examine spousal agreement on fertility intentions is important not only to understand the gender context of the society but because of marked improvement in women's education in Pakistan in recent decades [Planning Commission (2013)]. Women's increased participation in higher levels of education – and the greater economic opportunities this affords them—provides more bargaining power and decision-making authority within the household [Rosina and Testa (2009); Stein, *et al.* (2014)]. In particular, education is believed to provide women with the tools and resources to make informed decisions [Jejeebhoy (1995)], along with more options that can affect their childbearing intentions or the desired number of children. Therefore, this improvement may translate into more bargaining power and may give women the ability and power to make informed decisions. Pakistan represents a very interesting case in which gender roles are changing dramatically because of women's increasing participation in education and the labour force (though the rates are still very low). Despite changes in gender roles at societal level, in Pakistan, the household unit and family still remains highly gendered. In other words, changes happening at public sphere seem to have been slow to translate

to interpersonal relationships, possibly generating more disagreement among couples. Therefore, it is unclear whether women's education has, in fact, improved their bargaining resources, specifically in terms of deciding about their reproductive intentions.

The primary goal of this study is therefore to examine how couples' relative education influences the spousal agreement on fertility intentions. Second, when disagreement among couples arises, whose views prevail? Because of the increased exposure to alternative ideas, women may be more likely to have different fertility desires than their husbands. This is a common pattern seen over the course of demographic transition [Mason (2000)], with the desire for smaller families developing among women earlier than men. There are few studies on couples' fertility decision making in the Pakistan context, mainly due to the lack of couple-level data. The Pakistan Demographic Health Survey (PDHS) 2012-13 collected data from both men and women more than twenty years after the last couple-level data collection in 1990-91. This provides an opportunity to examine fertility from the couple's perspective and to look at change over time in spousal agreement in fertility intentions. The main contribution of this study, then, is the examination of changes in agreement in couples' fertility intentions over time, with a focus on how changes in women's education (both individual and relative to her husband) are related to agreement.

The results show that over time spousal agreement on having an additional child has risen. However, still around one fifth of couples disagree on having an additional child in 2012. Among the couples who disagree on fertility intentions, in the majority of cases, it is the husband who wants a(nother) child. My main hypothesis (Hypothesis 1) is that the couple is more prone to disagree about having a(nother) child if the woman is highly educated because educated women may have smaller family ideals that they can articulate but have little power to enact. My findings do not support this hypothesis. The results show that the risk of disagreement among couples is the same among couples in which the wife has secondary and above education and among couples with wives having no formal education. However, women with primary education are significantly less likely to have discordant fertility intentions than women with no education. This is somewhat surprising. One of the plausible reasons could be that educated women are better able to communicate their fertility desires with their husbands and thereby leading to less disagreement among couples on fertility intentions and preferences. It could be the result of selection bias. It is possible that educated women married with men who share the same fertility goals and appreciate the smaller fertility ideals [Basu (1999)]. It could be that these women have postponed their marriage and fertility to complete their education and therefore have not yet achieved their desired fertility goals. I also hypothesised about relative, rather than just absolute, education. My findings support the hypothesis that spousal disagreement on fertility intentions will be higher among couples in which wife is more educated than her husband

(Hypothesis 2). It is uncommon in Pakistani society for a wife to be more educated than her husband. When it happens, it may challenge traditional gender norms, and a husband may feel that his masculinity is threatened. If this is the case, husbands could 'do gender' by dominating over decisions about reproductive intentions and preferences [Khan, *et al.* (2002); Mason and Smith (2002)].

I expected that when disagreement occurs, women with higher education will be less likely to desire an additional child relative to their husbands compared to women with no formal education. The study findings support this hypothesis and show that the odds that only husband wants a(nother) child relative to that of their wives are three times higher in couples in which wife has secondary and above education (Hypothesis 1a). This also supports the transition theory argument that educated women are the forerunner of fertility decline. However, I did not find support for my hypothesis that husband will be more likely to desire for another child relative to their wives in couples in which husband is less educated than his wife in case of disagreement on fertility intentions (Hypothesis 2a). It may also be possible that in these cases women have more say in decision-making or may be more articulate in expressing her desires. Educated wives may help husbands appreciate the value of smaller families, and men's exposure to mass media can be a source to desire for smaller family independent of their wife's education. Another plausible reason is that because this is a select group in which the husband is less educated than his wife, these husbands may have characteristics that are in favour of smaller families. In other words, by marrying a more educated wife, this husband has already broken the traditional norms and demonstrated that "he can be as modern as she is" [Basu (1999)].

I also did not find strong support for my hypothesis of change over time in spousal agreement by women's education (Hypothesis 3). The findings suggest that level of spousal disagreement by women's education remains the same between 1990-91 and 2012-13. However, I do find some weak evidence that women with secondary and above education are slightly more likely to have husbands who want a(nother) child over time (Hypothesis 3a). This may imply that although women's absolute and relative levels of education are improving, their education has not empowered themselves in terms of decision-making. This suggests that the changes that are happening at societal level (as evident from women's access to education and the decline in gender gap in education) are slow to translate into interpersonal relationship at the household level. It may also be possible that education alone is not enough to empower women to make informed choices without being accompanied by socio-cultural changes throughout society. It is not the woman but the couple that makes decisions regarding fertility. So, in this context, women's education alone cannot change the socio-demographic and cultural landscape of the society; men's education and increased awareness and celebration of women empowerment is also important ingredient in bringing change.

Limitations

This study has several limitations. First, women's education may be a weak proxy to women's empowerment. There are several other variables identified in literature such as wife's gender role ideologies, attitudes towards wife beating, ownership of assets, healthcare decision making, spousal communication on fertility related issues to name few that can be more valuable in examining the influence of women's improved status on shaping couple's fertility intentions. However, much of these alternatives measures of women empowerment are not available in PDHS 1990-91 or were asked in different ways across surveys. Another limitation of this study is the cross-sectional nature of data. As mentioned before, fertility preferences are not static and are reassessed by couples over time with respect to changes in their socio-economic situation. It would be valuable to have longitudinal data that has prospective measure of couple's fertility preferences to see how couples' fertility attitudes and behaviours are shaped over time according to their individual and shared characteristics. Also, I could not disaggregate data by parity because of small sample size. A parity-specific approach is a promising direction because fertility intentions are not static and are reassessed over the individual life course.

CONCLUSION

Pakistan is the sixth most populous country in the world. Though the fertility rate declined sharply in 1990s, recent demographic surveys show that fertility has stalled in recent years [Hardee and Leahy (2008); Sathar, *et al.* (2009)]. Moreover, Pakistan is a patriarchal society, and women's position in the society remains contested. However, gender roles are changing dramatically because of women's increased exposure to education. The literature on couples' fertility intentions and preferences is almost non-existent in Pakistan, which is problematic given that gender dynamics of the society are changing so rapidly. This study is therefore an attempt to build that gap. It explored the decision-making process in the context of changes happening in Pakistani society (namely, the government's increased commitment to improve women's education).

The findings highlight the importance of collecting data from both husbands and wives to gain the better understanding of a couples' fertility decision-making process. Studying discordant fertility intentions is also important because of changing gender roles, particularly in patriarchal societies like Pakistan. There is evidence that gender roles are changing dramatically at societal levels [Planning Commission (2013)] but whether they are translating into reproductive sphere is less clear; the results here suggest they are not. Couples' agreement on fertility intentions is also an important predictor of later reproductive behaviour. Researchers have cited spousal fertility intentions as an important mechanism for explaining the inconsistency between desired and

actual reproductive behaviour [Miller and Pasta (1995); Toulemon and Testa (2006); Testa (2010)]. Fertility preferences are an important indicator to assess the pace of demographic transition in a country and have implications for devising effective population policy and strategies to achieve lower fertility. They also help policy makers in understanding the dynamics of couple fertility decision making processes. This study is exploratory in nature because of the data limitations, but it is the first study to investigate whether improvement in women's education and couple's educational homogamy influences the spousal agreement on fertility intentions and in case of disagreement whose views prevail. More extensive data on couples' fertility intentions and preferences as well as their views on gender role ideologies is needed to fully examine the fertility decision-making among dyads.

APPENDIX

Table A3.1

Logistic Regression Models Predicting Spousal Disagreement by Couple's Education: PDHS 1990 & 2012

Spousal Disagreement on Fertility Intentions	1990	2012
Wife's Education (Omitted=No formal education)		
Primary	0.48	0.68
Secondary & Above	0.81	0.74
Couple Educational Homogamy (Both have no formal education)		
Wife is more educated than husband	1.36	2.31*
Husband is more educated than wife	1.32	1.11
Both have same level of education	1.96	1.21
Husband's Age (Omitted=below 35)		
35-44	0.99	0.94
45 and above	1.00	0.81
Couple's Age Difference (Omitted=wife is younger 0-4 years)		
Wife is older by 1-9 years	1.28	1.04
Wife is younger by 5-9 years	1.50	0.95
Wife is younger by 10+ years	0.65	1.55
Wife's Work Status (Omitted=No)		
Yes	0.68	0.70
Parity (omitted=0-2)		
3	6.49***	2.19**
4 and above	4.96***	2.60***
Experienced Child's Death (omitted=none)		
Yes	0.99	1.13
Place of Residence (Omitted=rural)		
Urban	1.26	0.95
Household Wealth (Omitted=poor)		
Middle	0.84	0.61*
High	1.01	0.83
Currently Pregnant (Omitted=No)		
Yes	1.50	1.50*
Disagreement on number of living children (omitted= no disagreement)		
Disagreement	1.92*	1.32
Constant	0.07***	0.15***

+ (p<0.10), * (p<0.05), ** (p<0.01), *** (p<0.001).