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Aspirations and Women’s Empowerment: Evidence from Kyrgyzstan

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Abstract

Can having higher aspirations, or goals for the future, contribute to the empowerment of women? A growing literature shows that aspirations increase a host of forward-looking economic and political behaviors, from entrepreneurship to civic engagement. This has stimulated interest in development interventions aimed at reducing behavioral poverty traps. At the same time, a wealth of literature suggests that women’s empowerment and involvement in decision-making can be welfare-improving. It can increase household income and asset wealth by ensuring that women are economically active and have high levels of human capital; increase technical efficiency on the farm; and improve health, nutrition, and education outcomes for children. Linking these two literatures, we posit that one route to women’s empowerment may be to raise aspirations—either those of a woman herself, or those of her husband, who often wields considerable influence over her decision-making authority and access to resources. We find that having a husband who sets ambitious goals for himself predicts more egalitarian gender attitudes for both the husband and his wife. Higher aspirations on the part of wives also predict more egalitarian gender attitudes (for both the husband and his wife), but they additionally predict greater involvement of women in household decision-making. This suggests that efforts to fuel either men’s or women’s ambition can shift gender attitudes, but that targeting women is the more effective way to build women’s decision-making power.

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1 Introduction

Can having higher aspirations, or goals for the future, help empower women? Aspirations are becoming an increasingly important area of both theoretical and empirical inquiry. High-aspiring individuals tend to be forward-looking and entrepreneurial; they are more likely to save, take up new technologies with potentially large payoffs, operate a small business, and invest in their children’s education (Bernard et al., 2014; Dalton et al., 2015; Kosec and Khan, 2016). Such individuals also have higher levels of civic engagement (Kosec and Mo, 2017). As a result, individuals with higher aspirations tend to have higher incomes (Zax and Rees, 2002) and are more likely to hold salaried or white-collar jobs and community leadership roles (Wydict et al., 2013).¹ A failure to aspire has accordingly been proposed as one reason for the persistence of poverty (Appadurai, 2004; Duflo, 2013; Genicot and Ray, 2017; Lybbert and Wydict, 2018; Macours and Vakis, 2014; Ray, 2006). In response, a host of development interventions have emerged which aim to raise aspirations— often by exposing individuals to role models (Beaman et al., 2012; Bernard et al., 2014, 2015; Riley et al., 2017), introducing well-paid job opportunities (Jensen, 2012), or increasing interactions of women with peers (Dasgupta et al., 2015; Field et al., 2016). To the extent that aspirations influence individual attitudes and behaviors, can they also influence attitudes towards women, and women’s involvement in household decision-making?

Women’s empowerment and involvement in decision-making can be viewed as a forward-looking strategy for households given a host of literature suggesting that it is welfare-improving. In farming households, it predicts greater technical efficiency on plots managed by women and by men (Seymour, 2017), more efficient use of land fallowing and thus higher crop yields (Goldstein and Udry, 2008), and more investments in land quality (e.g., use of fertilizer and intensive tillage) (Dillon and Voena, 2018).² Health, nutri-

¹At the same time, unmet aspirations can lead to frustration that inhibits forward-looking investments (Genicot and Ray, 2017) or reduces trust in government (Healy et al., 2017).

²Improving women’s access to complementary agricultural inputs, such as extension services, can also help reduce the gender gap in the adoption rate of technology (Doss and Morris, 2000).

tion, and education outcomes also tend to be better when women are empowered. Gender equity in areas including education, employment, access to and control over household assets, and involvement in decision-making has been associated with greater household investments in health and education ([Behrman et al., 1999](#); [Quisumbing and Maluccio, 2003](#); [Thomas, 1990](#)) (particularly for girls ([Kumar and Quisumbing, 2012](#))), higher household budget shares dedicated to food ([Doss, 2006](#)), greater calorie availability and dietary diversity at the household level ([Sraboni et al., 2014](#)), better child nutritional status ([Smith and Haddad, 2001](#); [Smith et al., 2003](#); [Lépine and Strobl, 2013](#); [Imai et al., 2014](#); [Amarante et al., 2016](#); [Ekbrand and Halleröd, 2018](#)), and more use of prenatal care and contraceptives ([Beegle et al., 2001](#); [Dinçer et al., 2014](#)). This may be due in part to women having a lower discount rate compared to men and thus being more patient ([Rubalcava et al., 2009](#)). Women may also exhibit different preferences. For example, [Duflo \(2003\)](#) shows that pensions received by women (but not men) improved the anthropometric status of girls. [Bobonis \(2009\)](#) shows that women have a stronger preference for children’s goods than do men. [Qian \(2008\)](#) shows how increases in income earned by women tend to improve survival rates for girls and educational attainment for both girls and boys, whereas increases in male income worsen survival rates and educational attainment for girls, with no effects on boys. And [Angelucci and Attanasio \(2013\)](#) argue that handing cash transfers to women increases their bargaining power and thus results in greater consumption of food (especially high-protein food). At the macro level, [Diebolt and Perrin \(2013\)](#) show how gender equality drives an economic and demographic transformation characterized by increases in skilled human capital and a reduction in fertility.

Women’s empowerment can also improve the welfare of communities as a whole through civic and electoral mechanisms. [Bleck and Michelitch \(2018\)](#) show that women’s empowerment increases political knowledge among rural women; this is important since political knowledge directly affects acceptance of democratic principles and voter turnout ([Galston, 2001](#)). Women’s empowerment also increases civic participation by women and thus ad-

vances woman-specific political goals. For example, [Janssens \(2010\)](#) finds that a women’s empowerment program in India significantly increased women’s trust in community members, collective action, and contributions to community development projects. [Htun and Weldon \(2012\)](#) argue that feminist mobilization in civil society is an important determinant of the adoption of comprehensive policies to combat violence against women. And [Miller \(2008\)](#) demonstrates how women’s suffrage in the U.S. led to massive declines in child mortality by sparking sudden increases in local public health spending and hygiene campaigns. Highlighting the dynamic relationship between development and women’s rights, [Doepke et al. \(2012\)](#) describe feedback loops whereby development causes an expansion of women’s rights while women’s rights facilitate development. And [Wyndow et al. \(2013\)](#) present evidence that women’s empowerment brings about democracy.

We use data on the aspirations, gender attitudes, and reports about women’s involvement in decision-making of women and their husbands in 2,529 households surveyed as part of the 2016 round of the Life in Kyrgyzstan survey to examine two questions. First, after accounting for current levels of income, assets, education, social status, and security, does having higher aspirations in these domains predict more egalitarian gender attitudes? Second, do higher aspirations further translate into greater involvement of women in decision-making?

We measure women’s empowerment using two sets of variables: one focused on the extent to which individuals have egalitarian views on gender roles, and a second focused on the domains in which women participate in household decision-making. We construct two indices: an egalitarian gender attitudes index (based on the answers to nine questions) and a women’s decision-making power index (based on 17 questions). For each variable, we have reports from women and men (aged 15–54) in the same household. We make use of both reports since attitudes of each gender are of interest, and since women and men often have differing perceptions of women’s roles in decision-making ([Ambler et al., 2017](#); [Anderson et al., 2017](#); [Bradshaw, 2013](#); [Jejeebhoy, 2000](#)). Among couples, discrepancies over whether or not women are involved in particular household decisions at the very least cast doubt on the

woman’s involvement, and potentially also reflect the inefficient use of household resources (e.g., through duplication of effort or neglect of certain activities). We thus additionally examine whether aspirations predict spousal agreement on women’s involvement.

We measure aspirations similarly to [Beaman et al. \(2012\)](#), [Bernard and Seyoum Taffesse \(2014\)](#), [Bernard et al. \(2014\)](#), [Healy et al. \(2017\)](#), and [Kosec and Mo \(2017\)](#); we construct an aspiration index which is a weighted sum of respondents’ aspirations along five dimensions: household income, household asset wealth, education level of young family members, individual level of social status, and individual level of security. As different people may have different views of the relative importance of these five dimensions, respondents were asked to weight each dimension by distributing 100 points across the five according to personal perceptions of their relative importance. This allows us to create five weights that sum to 1. To calculate the aspiration index, we normalize aspirations in each dimension by subtracting the sample average and then dividing by the standard deviation. We then sum the five normalized variables, weighting each according to the importance respondents placed on it.

A large empirical challenge confronting our analysis is the endogeneity of individual aspirations to women’s empowerment outcomes. Many factors that impact aspirations likely affect either attitudes toward women or women’s involvement in decision-making. We control for the current levels of these five domains in all specifications so that aspired levels are purged of their correlation with existing levels, but myriad omitted variables are likely to remain, and there is strong potential for reverse causality. We thus make use of *community-level* data on the relative importance of the five domains of aspirations to construct a *predicted* aspiration index which we use as an instrumental variable. It takes an individual’s own aspiration in each domain, but then uses community-level average weights (omitting the individual’s household from the calculation) in place of their own weights. The validity of this instrument rests on a single identifying assumption: the weighted (by the individual’s own normalized aspiration levels) sum of community weights only affects women’s empowerment through its effect on the individual’s own aspiration index. We explicitly allow these five community-

level average weights, and an individual’s own five weights, to have a direct (and potentially non-linear) effect on women’s empowerment by controlling for a quadratic in each.

We find strong empirical evidence that raising aspirations is one route to empowering women. Higher aspirations on the part of husbands predict more egalitarian gender attitudes for both the husband and his wife. However, higher aspirations on the part of wives may be an even more important predictor of women’s empowerment. In particular, higher aspirations on the part of wives predict both more egalitarian gender attitudes (for both the husband and his wife) as well as greater involvement of women in household decision-making. This is mostly due to greater involvement of women in financial management decisions and major economic decisions, as opposed to marital or non-financial decisions.

The paper is organized as follows. Section 2 provides background information on women’s empowerment, aspirations, and women’s economic and social roles in the study context of Kyrgyzstan. Section 3 briefly outlines our conceptual framework. Section 4 describes our data and empirical strategy. Section 5 presents the results. Finally, Section 6 concludes.

2 Background

2.1 Women’s empowerment

Women’s empowerment is the process through which women extend what they are able to do in situations in which they were previously denied (Mosedale, 2005). The fifth goal of the United Nations’ Sustainable Development Goals (SDGs) aims to “achieve gender equality and empower all women and girls,” and to “provide women and girls with equal access to education, health care, decent work, and representation in political and economic decision-making processes” (United Nations, 2016, 2018). Women’s empowerment is multi-dimensional, including the empowerment of women in economic, socio-cultural, familial, legal, political, and psychological dimensions in the household, community, and beyond (Malhotra et al., 2005). Each dimension interacts with others. For example, decreasing the

wage gap between wives and husbands can reduce domestic violence (Aizer, 2010).³ Similarly, employment outside the husband’s farm can increase women’s autonomy within the household (Anderson and Eswaran, 2009). And an increase in women’s political representation can increase women’s entrepreneurship (Ghani et al., 2014), reduce sex-selective abortion (Kalsi, 2017), and reduce the gender gap in educational attainment (Beaman et al., 2012).

Though they are narrowing, global gender gaps in health, education, economic, and political outcomes persist, especially in developing countries (World Economic Forum, 2017). Within a household, gender inequality in access to assets and other resources is also widely documented (Deere and Doss, 2006; Doss, 2013; Quisumbing et al., 2000).

Interventions that aim to empower women should focus on increasing women’s access to and control over resources and developing their sense of agency to make welfare-improving decisions (Kabeer, 1999). An extensive literature has identified various drivers of women’s empowerment. These range from providing women with resources and information (e.g., through cash or asset transfer, entrepreneurial training, or provision of credit) (Roy et al., 2015; Valdivia, 2015), to expanding education opportunities for girls (Geddes and Lueck, 2002; Spohr, 2003), to legal reforms enhancing women’s inheritance rights and reserving political seats for women (Beaman et al., 2012; Bhalotra et al., 2018; Bose and Das, 2017).

2.2 Aspirations

Aspirations are individuals’ goals for the future. Individuals can have aspirations for various domains of their lives; some of those commonly examined include income, wealth, educational attainment, and social status. Aspirations are impacted by both internal and external factors. Individuals form aspirations by observing those in their cognitive window, including peers and family members (Dercon and Singh, 2013; Wantchekon et al., 2014; Genicot and Ray, 2017; Eger et al., 2018). Economic and social conditions also matter; for example, improved health outcomes can raise students’ aspirations (Chong et al., 2016).

³This study focuses primarily on the U.S.. However, another study of the U.S. finds that if a wife’s income is relatively higher than her husband’s, the couple is less satisfied with their marriage (Bertrand et al., 2015).

And, particularly for women, female political representation ([Beaman et al., 2012](#)), business counseling with peers ([Field et al., 2016](#)), receipt of information about labor market opportunities ([Jensen, 2012](#)), international child sponsorship ([Wydick et al., 2013](#)), and gender discrimination ([Echávarri and Husillos, 2016](#)) all influence aspirations.

Aspirations are closely linked to poverty. If a poor person does not think that their life can improve, they may choose a low level of aspirations, and thus make little effort to improve it ([Dalton et al., 2015](#)). Many development interventions provide the poor with resources such as cash, credit, training, school supplies, medicine, or infrastructure, but individuals with low aspirations may fail to make optimal use of the opportunities which these provide ([Bernard et al., 2014, 2015](#)). Having low aspirations is thus associated with lower earnings ([Azmat and Ferrer, 2017](#); [Zax and Rees, 2002](#)), less educational attainment ([Avitabile and De Hoyos, 2018](#); [Beaman et al., 2012](#); [Sánchez and Singh, 2018](#); [Wantchekon et al., 2014](#); [Wydick et al., 2013](#)), and worse health outcomes ([Echávarri and Husillos, 2016](#)). Low aspirations also predict lower levels of civic engagement ([Kosec and Mo, 2017](#)) and a lower likelihood of blaming government for inequality and poverty ([Healy et al., 2017](#))—thus undermining government accountability.

2.3 Women’s economic and social roles in Kyrgyzstan

Kyrgyzstan is a land-locked, mountainous, low-income country in Central Asia; in 2016, GDP per capita was \$1,044 (in constant 2010 USD) and about one in four people were living below the national poverty line ([World Bank, 2018](#)). Agricultural production is central to the economy; as of 2016, 64 percent of the population lived in rural areas, and agriculture’s share in GDP was 13 percent ([World Bank, 2018](#)). A full 27 percent of employment in 2016 was in agriculture, despite the fact that only 7 percent of the country’s land is arable. The vast majority of agricultural production takes place on small, individual farms ([FAO, 2015](#)).

In Kyrgyzstan’s traditionally nomadic culture, women have historically worked alongside men in herding animals—though each gender had distinct roles. Consequently, it was often

noted that Kyrgyz women were less conservative in their dress and roles in production than were women from other central Asian Muslim countries, such as Uzbekistan and Tajikistan (Hiro, 2009). Still, traditional Kyrgyz society is patriarchal and male-dominated. Women usually do not inherit from their parents when they marry into their husbands' family (Ibraeva et al., 2012), which has implications for their bargaining power within the marriage. In a typical Kyrgyz family, parents live with their married sons and women move to their husband's house—usually following a dowry being paid to the groom's family.⁴

Today, though Kyrgyz women have full legal protection of their equal rights, traditional norms persist—especially in the more conservative South (Hiro, 2009). During the Soviet era, farms and pastures were collectivized, and mandatory education and women's engagement in the labor force led to relatively equal treatment of both sexes. Today, over 25 years since the collapse of the Soviet Union, there is virtually no gender gap in educational attainment; in 2016, the secondary education enrollment rate in Kyrgyzstan was 85.5 percent for women and 85.4 percent for men (World Bank, 2018). However, a revival of practicing traditional culture, such as bride kidnapping, highlights women's disempowerment. The Global Gender Gap Index of 2016 ranked Kyrgyzstan 81st of 144 countries (World Economic Forum, 2016).

3 Conceptual Framework

Despite substantial work on the impacts of aspirations, we know of no study examining the causal impacts of aspirations within the household on either gender attitudes or women's empowerment. However, as our review of the literature on the impacts of aspirations and on the impacts of women's empowerment highlights, the empowerment of women can be viewed as yet another forward-looking investment that high-aspiring individuals will make.

High-aspiring husbands are motivated to share power with their wives because it can help them achieve their aspirations. Income and asset aspirations make them see the value

⁴The Kyrgyz tradition requires would-be grooms to pay a bride price ("kalym") to her fiancé's parents. The bride's parents then return part of the payment in the form of a dowry—usually smaller than the kalym.

in building and utilizing their wife’s human capital, and they thus support her taking up training opportunities, participating in the labor force, and participating in household management. Improvements in income and asset wealth can also help further a sense of household security, so those with high security aspirations may also choose to empower women. Husbands with high aspirations for their children may choose to share power given the benefits for children of having empowered mothers; for example, [Doepke and Tertilt \(2009\)](#) show that women’s liberation in 19th century England and the U.S. occurred before women got the franchise because men began to recognize that voluntarily empowering women increased educational investments in children. High-aspiring wives are further likely to demand involvement in household decisions. They may either recognize the value of being involved in such decisions—e.g., their greater propensity to invest in children ([Bobonis, 2009](#); [Rubalcava et al., 2009](#))—or simply take economic decisions like pursuing training or participating in the labor force in order to achieve their relatively high aspirations.

It is less clear how social status aspirations influence women’s empowerment; while women’s involvement in decision-making could be perceived as a sign of wealth and thus advance both women’s and men’s social status, it could also threaten a man’s masculinity or a woman’s relationship with less-empowered peers, thereby lowering social status. Given this ambiguity, we include it in our aspiration index, but also present results omitting it.

4 Empirical Strategy

To examine the relationship between aspirations and women’s empowerment, we estimate the following empirical specification:

$$E_{ijsk} = \beta_0 + \beta_1 A_{ijsk} + \beta_2 \mathbf{X}_{ijsk} + \beta_3 \mathbf{Y}_{jsk} + \beta_4 \mathbf{Z}_{ijsk} + \beta_5 \mathbf{G}_{jsk} + \beta_6 \mathbf{W}_{ijsk} + \epsilon_{ijsk} \quad (1)$$

where i indexes individuals, j indexes households, s indexes communities, and k indexes oblast (i.e. regions). The outcome, E_{ijsk} , is a measure of women’s empowerment. We

consider three main outcomes, described in sub-section 4.3: an egalitarian gender attitudes index, a women’s decision-making power index, and a consensus index of women’s decision-making power (at the couple-level). A_{ijsk} is individual i ’s aspiration index; it is a weighted average of aspirations in five dimensions: household income, household assets, education, individual social status, and individual security. We describe its construction, and how individuals provided their preferred weights for each dimension (which sum to 1), in sub-section 4.2. \mathbf{X}_{ijsk} is a vector of individual-level demographic controls, including age, age², a male dummy, a married dummy, education level dummies, and dummies for being employed, living with parents, and living with parents-in-law. \mathbf{Y}_{jsk} is a vector of household-level demographic controls, including the age, age², gender, marital status, ethnicity, and education level of the household head. Also included are household size, the number of adult male members, and the number of adult female members. \mathbf{Z}_{ijsk} is a vector of *current*, normalized levels of each of the five dimensions of the aspiration index. They capture what the individual and their household have already achieved in these five areas. \mathbf{G}_{jsk} are geographic controls, including oblast fixed effects and a rural area dummy.⁵ \mathbf{W}_{ijsk} is a vector of 20 weight controls, comprised of a quadratic in each of the five weights which the individual personally assigned to the five dimensions of aspirations, and a quadratic in each of the individual’s community’s average weights (excluding members of one’s own household from the calculation).

4.1 Data

Our primary data source is the fifth round of the Life in Kyrgyzstan Study (LiKS), collected in 2016 (LiKS, 2016). It is a longitudinal, multi-topic survey of households and individuals in Kyrgyzstan, representative at both the national and area (East, West, North, South) levels (Brück et al., 2014). It covers all seven Kyrgyz oblasts and the cities of Bishkek and Osh. Previous rounds were carried out in 2010, 2011, 2012, and 2014. 8,160 individuals in 3,000 households were interviewed in 2010 and tracked over time; the 2016 sample consists of 8,094

⁵Kyrgyzstan has seven main oblasts plus the cities of Bishkek and Osh, thus giving us nine distinct areas.

individuals in 2,529 households. The LiKS has a module on gender with nine questions on gender attitudes and 17 questions on women’s involvement in decision-making, all of which we used. We worked with the survey implementers to add an aspirations module to the 2016 round. Individuals were asked about their current and *desired* achievements in the areas of household income, asset wealth, education, social status, and security. Detailed questions and enumerator instructions are included in Appendix B.

We constructed a cross-sectional data set comprised of 6,162 individuals aged 15–54 who answered the aspirations module; we refer to this as the “full sample.”⁶ Given that the household roster identifies the spouse of each member (if they reside in the household), we also constructed a “married pair sub-sample” comprised of 1,941 couples.^{7,8} This sample is useful for considering post-marriage dynamics among those selecting into marriage. When using the married pair sub-sample, we always separately examine wives and husbands (by construction, there are equal numbers of each). We further code a couples-level dataset used only in analysis of the effects of aspirations on the extent to which husbands and wives agree that women are involved in household decision-making. When we use either the married pair sub-sample or the couples sample, our vector of individual-level controls \mathbf{X}_{ijsk} , our vector of the current levels of the dimensions of the aspiration index \mathbf{Z}_{ijsk} , as well as our vector of weight controls \mathbf{W}_{ijsk} , all include both controls for the wife and controls for her husband. We further add a dummy for having an arranged marriage to these specifications.

From the summary statistics in Table 1, we see that about 49 percent of our sample is male, the average age is about 35, 68 percent is married, 89 percent has completed at least secondary general education, and 16 percent has completed university or higher education. Among married couples (Table 2), about 45 percent are living with the husband’s parents, while only 1.7 percent live with the wife’s parents. 43 percent of women and 44 percent of men report having married through arranged marriage. Meanwhile, 23 percent of women

⁶In the full sample, we have complete data (i.e., on all of our control variables and on at least one of our outcomes) for 5,698 individuals from 2,207 households.

⁷In the married pair sub-sample, we have complete data for 1,736 couples.

⁸While we used the term “married pairs,” couples may be formally married or co-habiting (11 cases).

and 21 percent of men reporting marrying through bride kidnapping; the remainder married via love marriage. Among married couples, the average household has 6.4 members.

4.2 Measuring aspirations

We measure aspirations similarly to [Beaman et al. \(2012\)](#), [Bernard et al. \(2014\)](#), [Healy et al. \(2017\)](#), and [Kosec and Mo \(2017\)](#); we construct an aspiration index to measure respondents' aspirations along five dimensions: income, wealth, education, social status, and security.⁹ Specifically, respondents were asked what percentage less or more household income and household asset wealth they would like to achieve relative to their current level (e.g., 30 percent more income, and 90 percent more asset wealth),¹⁰ their desired level of education for male and for female family members (converted by us to years of education),¹¹ the level of social status (on a five rung ladder) they would like to achieve, and the level of security (on a five rung ladder) they would like to achieve. The aspired level of household income and asset wealth are each computed by multiplying the current level by the desired percentage increase (or decrease, which is uncommon). The aspired level of education of family members is the average of aspirations for male and female members.¹²

Different people may have different views of the relative importance of the five dimensions of aspirations. As a result, we asked respondents to distribute a total of 100 points across five cells of a game board—each containing both words and pictures—according to how important each dimension was to them, personally. Each dimension's weight for that individual is the share of sums placed on it; weights thus sum to 1. The weights which individuals place

⁹Security is a dimension of aspirations not included in previous studies, but a topic of increasing importance given how physical insecurity contributes to underdevelopment ([Pinotti, 2015](#); [Robles et al., 2013](#)).

¹⁰Our choice to ask about percentage increases over the current level resulted from feedback during piloting of the tool; individuals found it frustrating (given they had already completed full modules about their income and asset ownership) to quickly place a number on their current income and asset wealth.

¹¹There are 282 and 218 respondents reporting education aspirations of 0 years for females and males, respectively. As 0s may reflect enumerator errors, we re-coded a sub-set of them using an imputation method. Specifically, when education aspirations reveal an aspiration gender gap (in years) that is more than 5 standard deviations above the mean gap, we replace the 0 with the sample median aspiration for that gender, conditional on the aspiration value that the individual reported for the other gender.

¹²We averaged the two since the weights individuals assigned to education aspirations pertained to education overall, and not to education by each gender separately.

on each dimension may reflect their personal preferences and experiences (internal factors) or societal norms and values (external factors). Table 1 shows that on average, individuals place a weight of 0.34 on income, 0.20 on assets, 0.17 on education, and approximately 0.15 on both security and social status. Across the full sample, there is a greater variation in individuals’ aspirations for income than for other dimensions.

To calculate the aspiration index, we normalize the value in each dimension by subtracting the sample mean and dividing the difference by the sample standard deviation. We then computed a weighted sum of the five dimensions using the individual’s own weights for each dimension. Formally, the index can be written as:

$$A_{ijsk} = \sum_{n=1}^5 \left(\frac{a_n^{ijsk} - \mu_n}{\sigma_n} \right) w_n^{ijsk} \quad (2)$$

where a_n^{ijsk} is the aspiration of individual i on dimension n , μ_n and σ_n are the sample mean and standard deviation of a_n^{ijsk} , respectively, and w_n^{ijsk} is the weight individual i places on dimension n . Both overall (Appendix Table A1) and among married couples (Table 2), men on average have higher aspirations than do women. Appendix Table A1 also reveals that people in the top income tercile, in urban areas, and in the typically more conservative south tend to have higher aspirations than do people in lower terciles of income, in rural areas, and in the north.¹³ Among married couples (Appendix Table A2), individuals in a love marriage tend to have the highest aspirations, and those married through bride kidnapping tend to have the lowest, with aspirations for those with arranged marriages in between the two.

4.3 Outcomes

To measure the degree of women’s empowerment, we constructed three main indices: an egalitarian gender attitudes index, a women’s decision-making power index, and a consensus

¹³Income terciles are based on terciles of *household* income per adult equivalent. We used the OECD equivalence scale to calculate the household size in adult equivalents, assigning 1 to the first member in the household, 0.7 to each additional adult, and 0.5 to each child (Förster and d’Ercole, 2012).

index of women’s decision-making power (a couple-level index). To measure gender attitudes, respondents were read nine statements (listed in Appendix Table A3) about women’s role in the family and society. For example, the first statement reads: “both the husband and the wife should contribute to the household income.” Respondents were asked to choose 1 (strongly disagree), 2 (disagree), 3 (agree), or 4 (strongly agree). We call this set of variables our “egalitarian gender attitudes variables.” Where appropriate, we reverse-coded responses so that larger numbers indicate more egalitarian attitudes toward women.

To measure the extent of women’s involvement in decision-making, the survey asked questions about which family member(s) had the main decision-making authority over a set of 17 household decisions in the last 12 months. These fit into four categories: marital decisions, major economic decisions, financial management decisions, and non-financial decisions. Appendix Table A4 lists the questions in each category. For each question, we coded a dummy that equals 1 if the respondent reported that women in the household were involved in the decision. This could either be because women make the decision alone or due to joint decision-making involving women.¹⁴ We call this second set of variables our “women’s decision-making dummies.”

As shown in Panel A of Table 2, wives and husbands’ women’s decision-making dummies match 81 percent of the time.¹⁵ Cases of disagreement raise a methodological question: who to believe? Husbands may understate women’s involvement in decision-making due to different perceptions or reasons of ego (e.g., feeling that society expects men to make certain decisions alone), but husbands may also overstate women’s involvement if they feel that enumerators expect or want to hear this (i.e., social desirability bias). Women may be similarly affected by these biases. Overall, it is hard to say whose answer is more reliable. However, for a given decision, if both a husband and his wife agree that women are among

¹⁴For men, we coded the dummy as 1 if they reported that “my spouse,” “I together with my spouse,” “all female household members,” or “all household members together” had the main decision-making authority. For women, we coded the dummy as 1 if they reported that “myself,” “I together with my spouse,” “all female household members,” or “all household members together” had the authority.

¹⁵For marital decisions, major economic decisions, financial management decisions, and non-financial decisions, these numbers are 81, 81, 82, and 76 percent of the time, respectively.

the main decision-makers, the likelihood that women have a meaningful role is measurably higher than if only one of the two reports such involvement. Indeed, [Ambler et al. \(2017\)](#) find that spousal agreement that women are involved in decision-making is most positively associated with beneficial outcomes for women—compared to agreement that only men make decisions, or any type of disagreement. This motivates us to use an alternate coding of each of the 17 dummy variables: this time, each takes a value of 1 only if both the husband and his wife report that women are involved in the decision. We call this third set of variables our “women’s decision-making consensus dummies.”

To construct our three outcome indices, we first normalized the answer to each question by subtracting the sample mean and dividing the difference by the sample standard deviation. Within each set of our three sets of variables, we then average the normalized values across all N variables in the set. Specifically, each index E_{ijsk} can be formalized as:

$$E_{ijsk} = \sum_{n=1}^N \left(\frac{v_n^{ijsk} - \mu_n}{\sigma_n} \right) N^{-1} \quad (3)$$

where v_n^{ijsk} is the value taken on by question n for individual i and μ_n and σ_n are the sample mean and standard deviation of v_n^{ijsk} , respectively. N is nine for the egalitarian gender attitudes index and 17 for the women’s decision-making power index and the consensus index of women’s decision-making power. For each index, if data for any questions are missing, we take the average over the questions with non-missing data.¹⁶ For both the women’s decision-making power index and the consensus index of women’s decision-making power, we also constructed sub-indices that focus on the four different categories of decisions.

Appendix Table [A1](#) shows that for the full sample, women and those in urban areas and the less-conservative north have relatively more egalitarian gender attitudes and report

¹⁶For gender attitudes questions, 78.7 percent of respondents answered all nine questions (Appendix Table [A5](#)), with slightly higher rates of non-response for men than for women (Appendix Table [A3](#)). Similarly, for decision-making questions, Appendix Table [A6](#) shows that 46 percent of respondents answered all 17 questions, and only 7.4 percent answered fewer than 10 questions. Appendix Table [A4](#) indicates that most missing values happen in decisions related to marriage, migration, use of remittances, and agricultural production and sales. This is likely to happen when the household did not make such decisions recently.

higher levels of women’s involvement in decision-making. Individuals in the top tercile of household income per adult equivalent tend to be most likely to report women’s involvement in decision-making, though it is those in the middle income tercile who are most likely to have egalitarian gender attitudes. Table 2 shows that for couples, husbands tend to have less egalitarian gender attitudes, compared to wives. Women report higher rates of participation of women in household decisions than do men—similar to findings of Ambler et al. (2017). From Appendix Table A2, we see that couples in urban areas, the north, the top income tercile, and love marriages are more likely to report women’s involvement in decision-making.

4.4 Identification

A reasonable concern is that aspirations are correlated with other factors that influence women’s empowerment. Further, women’s empowerment may have a direct impact on aspirations, as suggested by Beaman et al. (2012), introducing concerns of reverse causality. This motivates our instrumental variables strategy to identify the causal effects of aspirations.

Individuals form their aspirations from their perception of people in their cognitive neighborhood (Dalton et al., 2015; Genicot and Ray, 2017). We argue that each individual’s priorities, i.e. their weights, are also influenced by priorities of other individuals—especially those in their community. There is a large body of literature on the effects of one’s neighborhood on individuals’ preferences (for example, in education: Åslund et al. (2011); Bobonis and Finan (2009)). Appendix Table A7 confirms that across all five dimensions, the community-level average weight is a strong and statistically significant predictor of the individual weight.

We construct a predicted aspiration index, P_{ijsk} , to instrument for our aspiration index, A_{ijsk} . To calculate P_{ijsk} , we use the individual’s own aspiration in each of the five dimensions, as for A_{ijsk} , but we introduce exogenous variation by using *community-level mean weights* for each dimension (excluding members of one’s own household from the computation) in

place of one’s own weight. Formally:

$$P_{ijsk} = \sum_{n=1}^5 \left(\frac{a_n^{ijsk} - \mu_n}{\sigma_n} \right) w_n^{sk, \sim j} \quad (4)$$

where $w_n^{sk, \sim j}$ is the average weight all individuals in community s , except for members of individual i ’s household j , assigned to dimension n . We thus exploit that part of an individuals’ aspiration index that is due to the relative priorities members of their community place on the five dimensions of aspirations. Our sample is comprised of 95 communities, ranging in population from 600 to 270,500. We use community mean instead of oblast mean weights since this is more likely to capture the individuals in one’s cognitive neighborhood.

The validity of our instrument rests on a single identifying assumption: the weighted (by the individual’s own normalized aspiration levels) sum of community weights only affects women’s empowerment though its effect on the individual’s own aspiration index. Importantly, we explicitly allow these five community-level average weights, and an individual’s five own weights, to have a direct (and potentially non-linear) effect on women’s empowerment by controlling for a quadratic in each in all specifications. It is thus only the linear combination of community-level weights that we construct—and not the community-level weights themselves—which we assume only affects empowerment through its effect on aspirations.

Our instrument is similar to the predicted instrument used by [Nevo \(2001\)](#), which instruments for price in a city by average price in all other cities within a region, excluding the city itself. [Kosec et al. \(2018\)](#) similarly instrument for actual political competition in local political races in Pakistan with predicted political competition, computed using the national vote share (and thus popularity) of all parties competing locally. And [Chalfin \(2015\)](#) use the interaction of the change in the number of migrants and a weight matrix that indicates the strength of migration networks (time-invariant) to instrument for immigration flows.

Our first-stage specification is as follows:

$$A_{ijsk} = \beta_0 + \beta_1 P_{ijsk} + \beta_2 X_{ijsk} + \beta_3 Y_{jsk} + \beta_4 Z_{ijsk} + \beta_5 G_{jsk} + \beta_6 W_{ijsk} + \epsilon_{ijsk} \quad (5)$$

where variables are as previously defined. As our identification strategy exploits community-level variation in aspirations weights, we cluster our standard errors at the community level.¹⁷ Table 3 shows the first stage results. Column 1 presents results for the full sample. For the married pair sub-sample, we have two types of specifications: those that consider the effects of an individual’s own aspirations on their own outcomes, and those that consider the effects of both an individual’s aspirations as well as those of their spouse. For specifications of the former type, we instrument for the individual’s aspiration index with their own predicted aspiration index; these results are shown in columns 2 (wives) and 3 (husbands). For specifications of the latter type, we have two endogenous variables and thus use two instruments: *both* the wife’s and the husband’s predicted aspiration indices (columns 4 and 5). The coefficient on the predicted aspiration index is always close to 1 and the first-stage F-statistic is always above 900, implying that our instrument is particularly strong.

4.5 Control variables

Individual controls include age, age², a male dummy, a married dummy, education dummies, and dummies for being employed, living with parents, and living with parents-in-law. For the married pair sub-sample, they also include a control for being in an arranged marriage.¹⁸ We treat age as a continuous variable with decimals, constructed from the birth date and interview date. We include four education dummies: having no more than basic educa-

¹⁷While our excluded instrumental variable actually varies at the household-level rather than the community-level given that we always exclude one’s own household when computing the community mean weights, community mean weights are largely similarly across all households within a community, motivating our more conservative choice of clustering at the community level.

¹⁸In principle, the dummies for being married and having an arranged marriage should be the same for each member of a couple, but Table 2 reveals some discrepancies in couples’ answers. We thus enter both responses as controls when using our married pair sub-sample.

tion, secondary general education, primary/secondary technical education, and university or higher education. An individual is considered employed if in the past seven days, he or she worked for a non-household member; worked on a farm or business owned or rented by household member(s); worked by farming, fishing, hunting, or gathering; or was absent but will return to work. We ascertain whether the individual is living with parents or parents-in-law through their stated relationship with the head. Finally, individual-level controls include quadratics in the weights which individuals place on the five dimensions of aspirations.

Household-level controls include the the age, age², gender, marital status, ethnicity and education dummies of the household head. We have five ethnicity dummies: Kyrgyz, Uzbek, Russian, Dungan, and other. Also included are household size, the number of adult male members, the number of adult female members, and oblast and rural dummies. Finally, household-level controls include quadratics in the weights which households other than one's own household place on each of the five dimensions of aspirations.

Our controls also include the current levels of the five dimensions of aspirations. These include household- (for income, asset wealth, and educational attainment) and individual-level (for social status and security) variables. Income consists of all labor income (earnings from household enterprises, property income, and wage employment), social transfers (pensions, allowances, and benefits), and remittances.¹⁹ Asset wealth is computed from 10 assets for which a value is provided.^{20,21} The individual's current level of security and social status are both self-reported on a 1–5 scale. We normalize the five current levels of these variables by subtracting the sample mean and then dividing by the sample standard deviation.

¹⁹When computing aspirations, we use this value of household income, and the individual's desired percentage improvement over their current household income, to obtain aspired income.

²⁰These mainly capture the value of household properties, vehicles, and communication assets; they include: the main dwelling, another house/ apartment, bicycles, motorcycles/ scooters, cars/ minibuses, tractors, trucks, other agricultural machines, mobile phones, and smart phones. 25 other assets do not have a value listed; these include domestic appliances, furniture, media appliances, and other communication assets. While the asset value we calculate is incomplete, it provides an approximation of asset wealth.

²¹When computing aspirations, we use this value of asset wealth, and the individual's desired percentage improvement over their current household asset wealth, to obtain aspired asset wealth.

5 Results

Our analysis considers the impacts of aspirations on gender attitudes and women’s involvement in decision-making employing three samples: our full sample, our married pair subsample (first considering wives, then husbands), and our couples sample. We first present our main results. Next, we consider which groups are driving these impacts by considering how they vary with household income per adult equivalent, urbanization, and marital type (arranged, love, or bride kidnapping). Finally, we present robustness checks showing that our results hold using alternative measures of women’s empowerment as well as aspirations.

5.1 Full sample

Results using the full sample are presented in Table 4; Panel A contains IV estimates, while panel B contains OLS estimates. Columns 1–4 take our egalitarian gender attitudes index as the outcome, while columns 5–8 use our women’s decision-making power index. All specifications include weight controls (quadratics in the weights individuals as well as their communities place on each of the five dimensions of aspirations) and geographic controls. We then progressively add individual-level controls (columns 2 and 6), household-level controls (columns 3 and 7), and controls for the current levels of the five components of our aspiration index (columns 4 and 8). Columns 4 and 8 comprise our preferred specifications; by taking into account one’s current standing on the five domains of aspirations, we can isolate that part of the impact of aspirations that is not due to its correlation with one’s current standing. For all specifications, IV estimates are slightly larger than OLS estimates. The coefficient on the aspiration index is also remarkably stable across columns, suggesting little sensitivity to the inclusion of controls. In both IV (Panel A) and OLS (Panel B) specifications, higher aspirations always leads to significantly more egalitarian gender attitudes. Considering the fully controlled IV specification of column 4, a one standard deviation—or 0.537 unit—increase in our aspiration index results in a 0.101 point higher egalitarian gender attitudes

index, which is equal to a 0.19 standard deviations increase (significant at the 0.01 level).²²

The relationship between aspirations and women’s involvement in household decision-making is weaker. In our IV estimates, while the aspiration index is a statistically significant predictor of women’s involvement in decision-making when we do not control for current achievements in the five domains of aspirations (columns 6-7), it falls to just below conventional levels of statistical significance in the fully controlled specification of column 8. Further, the point estimate of 0.072 represents only a 0.039 point, or a 0.05 standard deviations increase in the level of women’s involvement in decision-making, for a standard deviation increase in the aspiration index.²³ Thus, at least when considering our full sample and one’s own aspiration level, we lack robust evidence that having higher aspirations leads to greater women’s involvement in decision-making. Results are similar when we consider only women or only men from the full sample, as shown in Appendix Table A8: higher aspirations lead to more egalitarian gender attitudes,²⁴ but no change in women’s involvement in decision-making. The contrast between our results for egalitarian gender attitudes and those for decision-making suggests that the two capture distinct concepts.

The coefficients on our control variables reveal interesting patterns; in all specifications, being female and being employed are strong and statistically significant predictors of both having more egalitarian gender attitudes and reporting women’s involvement in household decision-making. Living with one’s parents and living with one’s in-laws are both negatively associated with women’s involvement in decision-making, though they are not statistically significant predictors of gender attitudes. Being married predicts less egalitarian gender attitudes, but greater involvement of women in household decision-making, reflecting in some sense the changing expectations and responsibilities that come with marriage.

²²We carry out the following computation: $0.537 \times 0.188 = 0.101$. A standard deviation of the egalitarian gender attitudes index is 0.519 units, so we divide 0.101 by 0.519 to get 0.19 standard deviations.

²³We carry out the following computation: $0.537 \times 0.072 = 0.039$. This equals 0.05 standard deviations of the women’s decision-making power index, given its standard deviation of 0.781 units.

²⁴A regression of a fully interacted model and a one-tailed z-test reveals that the impact of aspirations on gender attitudes is statistically significantly higher for women than men (the null hypothesis that the interaction of the aspiration index and the male dummy is non-negative is rejected with a p-value of 0.001).

5.2 Married pair sub-sample

A more interesting picture emerges in Table 5, when we consider married couples. Panels A and B present IV and OLS results, respectively, for wives; Panels C and D present analogous results for husbands. Separating couples by gender allows us to assess the distinct drivers of women’s versus men’s gender attitudes within a marriage, and allows us to consider drivers of their distinct (and possibly conflicting) reports about the degree to which women are involved in decision-making. Columns 1–4 take the egalitarian gender attitudes index as the outcome while columns 6–8 consider the women’s decision-making power index. The first two columns (1–2, and 5–6) report the effects of one’s own aspiration index, including only basic controls (weights and geographic) and including all controls, respectively. The next column (3 and 7) then shows the effect of one’s spouse’s aspiration index on their own outcomes, with our full control set. Finally (columns 4 and 8), we control for both the individual’s own aspiration index as well as that of their spouse, and include our full control set.

Once again, the coefficients on the aspiration index in the OLS and IV results are similar—with OLS estimates sometimes larger and other times smaller than IV estimates. In the IV results, across all specifications, higher aspirations on the part of either the wife or husband predict more egalitarian gender attitudes for both. This is true even in column 4, where we control for both the wife’s and the husband’s aspiration indices to consider the partial effects of each—potentially important given a high likelihood of positive assortative matching, whereby high-aspiring women marry high-aspiring men. Panel A presents results for wives. The results from column 4 suggest that a one standard deviation—or 0.509 unit—increase in the wife’s aspiration index results in the wife having a 0.056 point higher egalitarian gender attitudes index, which in this sub-sample is equal to a 0.11 standard deviation increase (statistically significant at the 0.05 level).²⁵ From the same specification, a one standard deviation—or 0.527 unit—increase in the husband’s aspiration index results in the

²⁵We carry out the following computation: $0.509 \times 0.110 = 0.056$. A standard deviation of the egalitarian gender attitudes index in the sample of wives is 0.523 units, so we divide 0.056 by 0.523 to get 0.11.

wife having an identical 0.056 point, or 0.11 standard deviations higher egalitarian gender attitudes index (significant at the 0.01 level). Panel C presents similar results for husbands. Column 4 shows that a one standard deviation increase in the wife’s aspiration index results in the husband having a 0.042 point, or 0.09 standard deviation higher egalitarian gender attitudes index (significant at the 0.05 level), while a one standard deviation increase in the husband’s aspiration index results in a 0.053 point, or 0.11 standard deviations increase in the husband’s egalitarian gender attitudes index (significant at the 0.01 level). This suggests that in the context of married couples, both the wife’s and the husband’s aspirations influence gender attitudes, and are of roughly similar importance.

In contrast to our attitude-based outcome, we find little evidence that a husband’s aspirations matters for either his or his wife’s reported women’s decision-making power index, once we control for his wife’s aspirations (column 8). However, we do find robust evidence that as a wife’s aspirations rise, her husband is more likely to report women’s involvement in decision-making. This holds whether we additionally control for the husband’s own aspirations (column 8) or not (column 7). However, wives’ aspirations do not statistically significantly influence wives’ own reports about women’s involvement in decision-making. That wives’ aspirations affect their husbands’ but not their own reports on women’s involvement in decision-making obviously stems from the 19 percent of the time that spouses disagree about whether or not women are involved in making a decision. This motivates us to analyze the extent to which couples agree that women are involved in decision-making.

5.3 Consensus index of women’s decision-making power

Our consensus index of women’s decision-making power captures the extent to which there is agreement between the wife and husband that women are involved in decision-making. Table 6 presents OLS and IV results from couple-level regressions using the consensus index. We show specifications without (columns 1–2) and with (columns 3–5) our full control set, and with only wives’ aspirations (columns 1 and 3), only husbands’ aspirations (columns 2

and 4) and both individuals' aspirations (column 5) as our independent variables of interest. Considering the IV estimates, we see that across all specifications, wives' aspirations are a strong predictor of women's involvement in decision-making (statistically significant at the 0.10 level or higher). While husbands' aspirations appear to have a statistically significant impact when we control for them alone (column 4), this coefficient lowers in magnitude and drops below conventional levels of statistical significance when we add a control for wives' aspirations (column 5). The point estimate suggests that a one standard deviation—or 0.509 unit—increase in the wife's aspiration index increases the consensus index of women's decision-making power by 0.06 points, which is 0.08 standard deviations of this variable.

5.4 Sub-indices of women's decision-making power

To better understand which decisions aspirations influence, we next consider our four groupings of decisions, described in sub-section 4.3: marital decisions, major economic decisions, financial management decisions, and non-financial decisions. For both the women's decision-making power index and the consensus index of women's decision-making power, we construct four sub-indices. Table 7 presents IV results for these sub-indices (using all controls) for the full sample (Panel A), wives (Panel B), husbands (Panel C), and couples (Panel D).

When we consider the full sample (Panel A), having higher aspirations increases women's involvement in financial management decisions but not in other decisions. A one standard deviation increase in one's aspiration index increases the sub-index of women's involvement in financial management decisions by 0.062 standard deviation (significant at the 0.05 level). Similar results emerge when considering the sub-sample of married individuals, in Panel B and C. Aspirations affect women's involvement in financial management decisions, but not other decisions. Husbands are more likely to report that women are involved in financial management decisions when their wife has higher aspirations, whereas wives are more likely to report women's involvement in financial management decisions when their husbands have higher aspirations. The results in Panel D which use the couples sample support the im-

portance of aspirations for women’s involvement in financial management decisions. A one standard deviation improvement in the wife’s aspiration index contributes to a 0.083 unit, or 0.10 standard deviation increase in the sub-index of consensus on women’s involvement in financial management decisions (significant at 0.05 level). Unlike the individual-level analyses of Panels A–C, however, the couples’ consensus results of Panel D additionally reveal that women’s aspirations impact women’s involvement in major economic decision (statistically significant at the 0.10 level). A one standard deviation improvement in the wife’s aspiration index contributes to a 0.056 unit, or 0.07 standard deviation increase in the sub-index of consensus on women’s involvement in major economic decisions (significant at 0.05 level).

Despite the evidence we find on the importance of wives’ aspirations for women’s involvement in financial management and major economic decisions, in none of the four panels do aspirations affect either marital or non-financial decisions. It may be the case that the former two decisions are most perceived as areas in which women’s involvement can contribute to achieving aspirations in the five domains which we consider.

5.5 Individual variables measuring empowerment

Our use of indices reduces problems associated with multiple hypothesis testing. However, it is instructive to see which individual components of our indices appear to be driving the results. Appendix Table A9 reveals that aspirations have statistically significant, positive effects on the likelihood of supporting several beliefs: that women should be involved in decision-making (column 1), that a husband’s career should not be more important to a wife than her own (column 5), that a university education is no less important for a girl than a boy (column 6), that both the husband and wife should contribute to household income (column 7), and that women can work outside the home (column 9). Turning to women’s involvement in decision-making, Appendix Table A10 reveals that aspirations—either of the individual, wife, or husband—have statistically significant, positive effects on reports that women are involved in decisions related to: where female household members should work

(column 5), whether to buy major items (column 6), migration of a household member (column 7), whether or not to lend money to others (column 10), how much to save (column 11), how much money to present to relatives at weddings/ celebrations/ funerals (column 12), whether or not to borrow money (column 13), how to use remittances (column 14), children’s education and health (column 15), negotiations with neighbors (column 16), and participation in discussions of community issues (column 17).

5.6 Sub-group analysis

To better understand where aspirations have the strongest effect on women’s empowerment, we carried out three main sub-group analyses: by income level (tercile of household income per adult equivalent), by urbanization status (rural or urban), and by marital quality (arranged, love marriage, or bride kidnapping). For the full sample, wives, and husbands, we estimated a fully-controlled specification for each of our two main empowerment indices. We also estimated the same specification with our couples sample using the consensus index.

Table 8 reveals that aspirations have the smallest impact on the extent to which individuals espouse egalitarian gender attitudes for the bottom tercile of household income per adult equivalent, compared to higher terciles. In Panel A where we use the full sample, the coefficient on aspirations is statistically significant for all three terciles at the 0.1 level, though it is smaller for the bottom tercile than it is for higher terciles.²⁶ In the sample of wives from Panel B, it is only for the top tercile of income that either the husband’s or the wife’s aspirations has a statistically significant, positive effect on the egalitarian gender attitudes index. And for the husbands sub-sample (Panel C), aspirations only matter for gender attitudes at the middle and top terciles of income.

When we consider women’s involvement in household decision-making, however, aspirations conversely have the lowest impact at the *top* tercile of income. For the full sample (Panel A), aspirations are only statistically significant predictors of women’s involvement in

²⁶These differences, nonetheless, are not statistically significant.

decision-making for the bottom tercile of income.²⁷ We find no statistically significant results in the wives sample (Panel B), but for the husbands sample (Panel C), having higher-aspiring wives has a statistically significant, positive impact on women’s involvement in decision-making only for the bottom and middle terciles.²⁸ Finally, for the consensus index, women’s aspirations increase their involvement in decision-making, but this effect is significant only for the middle tercile, and the point estimate for the top tercile is the smallest of the three.²⁹

We next compare urban and rural areas (Table 9). Overall, we find that the impact of aspirations on the egalitarian gender attitudes index is similar across the two areas, but the effect of aspirations on women’s involvement in household decision-making is largely driven by rural areas. In all panels except for the wives sub-sample (Panel B), the effect of women’s aspirations on women’s involvement in household decision-making is statistically higher in rural areas than in urban, significant at the 0.05 level or better.^{30,31} This suggests that interventions to raise aspirations with the goal of bringing about more women’s involvement in household decisions might be most effective among rural women.

Finally, Table 10 presents results by type of marriage for married pairs. For the egalitarian gender attitudes index, neither the wife’s nor the husband’s aspirations matter in marriages which took place through bride kidnapping. In arranged marriages, both individuals’ aspirations appear to matter, while in love marriages, only the husband’s aspirations matter (and only for the husband’s own gender attitudes—not for those of his wife). For

²⁷The coefficient for top tercile is significantly lower than it is for the bottom tercile (the null hypothesis that the coefficient of the interaction term of aspiration index and the dummy for being in top income tercile is equal to or higher than 0 is rejected with a p-value of 0.05) and the coefficients for the middle and bottom terciles are statistically indistinguishable.

²⁸The coefficients are, however, not significantly different from each other.

²⁹These differences are not statistically significant.

³⁰Appendix Table A11 provides further insight into geographic variation in the impacts of aspirations. We see that for women’s involvement in decision-making, husbands’ aspirations are a relatively more important predictor in the less-conservative north region, while wives’ aspirations are relatively more important in the more conservative south.

³¹A vast majority of Kyrgyz people are Muslims. The impacts of aspirations on women’s empowerment may vary for individuals with different levels of religiosity—something we examine in Appendix Table A12. Despite null results for women’s involvement in decision-making, aspirations have a significant, positive impact on egalitarian gender attitudes for both individuals with high and low levels of religiosity (Panel A, Column (1) and (2)), with a larger point estimate for individuals who are more religious. For wives, husbands’ aspirations are also more important for individuals with greater religiosity (Panel B, Column (2)).

women’s decision-making power outcomes, raising the wife’s aspirations only appears to be a route to increase involvement of women in household decision-making in marriage resulting from either bride kidnapping or an arranged marriage. In the context of a bride kidnapping marriage, in fact, we find the only instance of a statistically significant, negative relationship between aspirations and women’s empowerment: higher-aspiring bride kidnappers tend to subjugate women rather than involve them in decision-making.³² Our consensus index regressions (Panel D), however, reveal that it is only in bride kidnapping marriages that raising women’s aspirations increases the likelihood that women are involved in decision-making. Overall, the results suggest that while efforts to raise husbands’ aspirations may yield more egalitarian gender attitudes in marriages that are relatively more freely entered into (i.e. love and arranged), raising men’s aspirations within the context of a bride kidnapping marriage has no impact on the degree to which gender attitudes are egalitarian, and actually lowers the likelihood of women’s involvement in decision-making. In such marriages, however, raising women’s aspirations can help them access greater decision-making power.

5.7 Robustness checks

We test the robustness of the results to alternative ways of capturing both women’s empowerment and aspirations. First, we show that our results are robust to—and often stronger with—a measure of women’s empowerment that uses the first principal component from a principal components analysis (PCA) instead of a straight average of variables. This allows the data to determine the weights placed on each component of our empowerment indices.³³ Second, we show that our results are also robust to using a measure of aspirations that excludes the social status dimension.³⁴ This addresses a potential criticism: while achieving

³²The coefficient of husband’s aspirations for bride kidnapping is statistically significantly lower than for other two types of marriage (one-tailed z-tests of null hypotheses rejected with p-value < 0.012).

³³In previous analyses, if data on one or more of the variables used to compute a women’s empowerment index were missing, we averaged over the remaining variables. To preserve the same sample used in our main results (Tables 4, 5, and 6), our PCA-based measure thus replaces missing values with the community mean.

³⁴There is no respondent that assigned all the points to social status. The formula we use to re-calculate weights is: $w_n^{ijsk, \sim status} = w_n^{ijsk} / (1 - w_{status}^{ijsk})$

higher levels of household income, assets, education, and security should in theory be increasing women’s empowerment, in a conservative society it may be the case that one’s social standing—at least for a man, and possibly also for a woman—is somewhat reduced when women take on traditionally male gender roles. For example, in some cultural contexts, men may feel that women’s involvement in certain household decisions reveals their own weaknesses and thus lowers their social status. Similarly, women may feel that their involvement in decision-making makes them look uncared for or overly masculine. Thus, status-seeking individuals of either gender may be more reluctant to support women’s empowerment, opposite our hypothesized relationship for the four other dimensions of aspirations. Indeed, when regressing all three of our main empowerment outcomes on the individual (unweighted) components of aspirations and our full set of controls, other components are mostly positively correlated with these outcomes (and often statistically significantly so), with the exception of social status aspirations which are always insignificant and sometimes negative.

Appendix Table A13 shows that our main IV results hold when using our PCA-based measures of women’s empowerment. When we use our full sample (Panel A), aspirations continue to have a statistically significant, positive impact on the likelihood of expressing egalitarian gender attitudes (columns 1–4), as in Table 4. However, now aspirations additionally have a statistically significant, positive impact on women’s decision-making power (column 6–8). The results from Appendix Table A14 similarly mirror those of Table 5; for both wives (Panel A) and husbands (Panel B), higher aspirations for both wives and husbands predict more egalitarian gender attitudes, though only for wives’ aspirations do we see impacts on reports of women’s involvement in decision-making (and only husbands’ reports are affected). When we use our PCA-based measure of women’s empowerment in our couples sample, however, we see that both husbands’ and wives’ aspirations are statistically significant predictors of the consensus index on women’s decision-making power (Appendix Table A15)—a result that contrasts with Table 6, where only the wife’s aspirations mattered.

The results also broadly hold when we omit social status when computing our aspiration

index. In our full sample (Appendix Table A13, Panel B), aspirations continue to have a statistically significant, positive impact on the likelihood of expressing egalitarian gender attitudes (column 4), as in Table 4. And, just as for our last robustness checking using PCA-based outcomes, we see that now aspirations additionally have a statistically significant, positive impact on the women’s decision-making power index (column 8). The results from Appendix Table A14 (Panels C and D) again similarly mirror those of Table 5, as they did for the PCA-based robustness check. When we omit social status, in our sample of couples, however, only the wife’s aspirations are a statistically significant predictor of the consensus index on women’s decision-making power (Appendix Table A15)—in keeping with Table 6, though in contrast to the PCA robustness check in which both wives’ and husbands’ aspirations matter for women’s involvement in decision-making. Overall, our main results generally hold up to these two robustness checks; they are always of the same sign, generally similar magnitude, and often greater statistical significance than the main results.

6 Conclusion

Can having higher aspirations, or goals for the future, contribute to the empowerment of women? A growing literature shows that aspirations increase a host of forward-looking economic and political behaviors, from entrepreneurship to civic engagement. This has stimulated interest in development interventions aimed at reducing behavioral poverty traps. At the same time, a wealth of literature suggests that women’s empowerment and involvement in decision-making can be welfare-improving. It can increase household income and asset wealth by ensuring that women are economically active and have high levels of human capital; increase technical efficiency on the farm; and improve health, nutrition, and education outcomes for children. Linking these two literatures, we posit that one route to women’s empowerment may be to raise aspirations—either those of a woman herself, or those of her husband, who often wields considerable influence over her decision-making authority and

access to resources.

We find that having a husband who sets ambitious goals for himself predicts more egalitarian gender attitudes for both the husband and his wife. Higher aspirations on the part of wives also predict more egalitarian gender attitudes (for both the husband and his wife), but they additionally predict greater involvement of women in household decision-making. This suggests that efforts to fuel either men’s or women’s ambition can shift gender attitudes, but that targeting women is the more effective way to build women’s decision-making power.

By drawing links between aspirations and women’s empowerment, this study offers important evidence on the psychological determinants of women’s empowerment. Our results indicate that aspirations failures might be partly responsible for a failure to empower women. They further suggest that interventions which aim to raise aspirations—particularly those of women—may be a promising and potentially low-cost way of changing traditional norms and opening up opportunities for women. Given the inherent difficulties of changing traditional gender norms, these findings are especially valuable for policymakers.

Table 1: Summary statistics - overall sample

	N (1)	Mean (2)	SD (3)
Panel A: Women's empowerment indices, subindices, and aspirations			
Egalitarian gender attitudes index	5684	-0.013	0.519
Women's decision-making power index	5679	-0.077	0.781
Women's decision-making power index for marital decisions	4609	-0.088	0.965
Women's decision-making power index for major economic decisions	5660	-0.059	0.792
Women's decision-making power index for financial management	5669	-0.1	0.887
Women's decision-making power index for non-financial decisions	5635	-0.083	0.936
First principal component of egalitarian gender attitudes questions	5698	-0.01	1.666
First principal component of decision-making power questions	5425	-0.369	3.159
Aspiration index	5698	-0.013	0.537
Aspiration index (excl. social status)	5698	-0.015	0.569
Panel B: Individual-level controls			
Age	5698	34.675	10.64
Dummy - male	5698	0.492	0.5
Dummy - married	5698	0.681	0.466
Dummy - no more than basic education	5698	0.107	0.309
Dummy - completed secondary general education	5698	0.62	0.485
Dummy - completed primary/secondary technical education	5698	0.118	0.323
Dummy - completed university or higher education	5698	0.155	0.362
Dummy - being employed	5698	0.569	0.495
Dummy - living with parents	5698	0.416	0.493
Dummy - living with parents-in-law	5698	0.164	0.37
Panel C: Household-level and geographic controls			
Age of head	5698	53.231	12.058
Dummy - head is male	5698	0.769	0.422
Dummy - head is married	5698	0.759	0.428
Dummy - head is Kyrgyz	5698	0.684	0.465
Dummy - head is Uzbek	5698	0.174	0.379
Dummy - head is Russian	5698	0.058	0.234
Dummy - head is Dungan	5698	0.04	0.195
Dummy - head is other ethnicity	5698	0.045	0.206
Dummy - head has no more than basic education	5698	0.112	0.316
Dummy - head completed secondary general education	5698	0.568	0.495
Dummy - head completed primary/secondary technical education	5698	0.164	0.37
Dummy - head completed university or higher education	5698	0.157	0.364
Number of male adults in the household	5698	2.054	1.058
Number of female adults in the household	5698	2.076	0.99
Household size	5698	6.133	2.516
Dummy - living in rural area	5698	0.649	0.477
Panel D: Current levels of aspiration components			
Current household assets (normalized)	5698	-0.004	0.991
Current average education of household members (normalized)	5698	-0.001	1.008
Current household income (normalized)	5698	-0.023	0.924
Current individual security (normalized)	5698	-0.014	0.993
Current individual social status (normalized)	5698	-0.008	0.996
Panel E: Weight controls			
Community mean weight of assets	5698	0.199	0.039
Community mean weight of education	5698	0.168	0.04
Community mean weight of income	5698	0.336	0.105
Community mean weight of security	5698	0.151	0.049
Community mean weight of social status	5698	0.145	0.037
Individual weight assigned to asset	5698	0.199	0.082
Individual weight assigned to education	5698	0.169	0.081
Individual weight assigned to income	5698	0.336	0.159
Individual weight assigned to security	5698	0.151	0.085
Individual weight assigned to social status	5698	0.145	0.071

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all individuals aged 18-54 who answered the aspirations module in LIKS 2016 and appear at least once in regressions in this paper. The egalitarian gender attitudes index is the average of normalized values of answers to 9 questions regarding to women's role in family and society. The women's decision-making power index is the average of normalized values of 17 dummies regarding to women's decision-making power in the household. Appendix Table A4 lists all questions included in each sub-index of women's decision-making. In calculating all indices and sub-indices, we take the mean of all non-missing values. In calculating the first principal components, we replaced all missing values by the community mean. Aspiration index is the sum of normalized values of 5 components of aspiration, weighted by the importance of each component assigned by the respondent. The aspiration index excluding social status sets the weight of social status as 0 in the calculation but keeps the sum of weights of remaining 4 dimensions equal to 1. We define an individual is employed if in the past 7 days, he/she worked for a non-household member; worked on a farm or business owned or rented by household member(s); worked by farming, fishing, hunting, or gathering; or was absent in past 7 days but will return to work. We derive whether the individual is living with parents or parents-in-law through one's stated relationship with the household head. The community average weight of each dimension is calculated by excluding the weights of members of one's own household.

Table 2: Summary statistics - married pair sub-sample

	Wife			Husband		
	N (1)	Mean (2)	SD (3)	N (4)	Mean (5)	SD (6)
Panel A: Women's empowerment indices, subindices, and aspirations						
Egalitarian gender attitudes index	1735	0.041	0.523	1733	-0.095	0.48
Women's decision-making power index	1735	0.113	0.701	1735	0.078	0.683
Women's decision-making power index for marital decisions	1343	0.11	0.897	1370	0.138	0.88
Women's decision-making power index for major economic decisions	1733	0.071	0.746	1733	0.055	0.731
Women's decision-making power index for financial management	1733	0.118	0.805	1734	0.105	0.782
Women's decision-making power index for non-financial decisions	1726	0.178	0.776	1727	-0.024	0.911
Consensus index of women's decision-making power	1734	0.061	0.72	1734	0.061	0.72
Consensus index of women's decision-making power on marital decisions	1286	0.064	0.926	1286	0.064	0.926
Consensus index of women's decision-making power on major economic decisions	1732	0.055	0.759	1732	0.055	0.759
Consensus index of women's decision-making power on financial management	1731	0.058	0.825	1731	0.058	0.825
Consensus index of women's decision-making power on non-financial decisions	1720	0.029	0.897	1720	0.029	0.897
First principal component of egalitarian gender attitudes questions	1736	0.164	1.704	1736	-0.258	1.55
First principal component of decision-making power questions	1638	0.365	2.882	1638	0.266	2.81
First principal component of consensus on women's decision-making power	1396	0.142	2.994	1396	0.142	2.994
Share of agreed decisions about whether or not women are involved	1734	0.809	0.242	1734	0.809	0.242
Share of agreed marital decisions about whether or not women are involved	1286	0.81	0.346	1286	0.81	0.346
Share of agreed major economic decisions about whether or not women are involved	1732	0.808	0.277	1732	0.808	0.277
Share of agreed financial decisions about whether or not women are involved	1731	0.822	0.282	1731	0.822	0.282
Share of agreed non-financial decisions about whether or not women are involved	1720	0.764	0.366	1720	0.764	0.366
Aspiration index (AI)	1736	-0.019	0.509	1736	-0.002	0.527
Aspiration index (excl. social status)	1736	-0.015	0.542	1736	-0.013	0.556
Panel B: Individual-level controls						
Age	1736	35.923	9.311	1736	39.431	9.083
Dummy - male	1736	0	0	1736	1	0
Dummy - married	1736	0.994	0.079	1736	0.994	0.079
Dummy - married through arranged marriage	1736	0.43	0.495	1736	0.441	0.497
Dummy - married through bride kidnapping	1736	0.225	0.417	1736	0.21	0.408
Dummy - married through love marriage	1736	0.346	0.476	1736	0.349	0.477
Dummy - no more than basic education	1736	0.109	0.312	1736	0.094	0.292
Dummy - completed secondary general education	1736	0.591	0.492	1736	0.621	0.485
Dummy - completed primary/secondary technical education	1736	0.127	0.333	1736	0.132	0.339
Dummy - completed university or higher education	1736	0.173	0.378	1736	0.153	0.36
Dummy - being employed	1736	0.448	0.497	1736	0.757	0.429
Dummy - living with parents	1736	0.017	0.13	1736	0.446	0.497
Dummy - living with parents-in-law	1736	0.446	0.497	1736	0.017	0.13
Panel C: Household-level and geographic controls						
Age of head	1736	52.613	12.801	1736	52.613	12.801
Dummy - head is male	1736	0.825	0.38	1736	0.825	0.38
Dummy - head is married	1736	0.826	0.379	1736	0.826	0.379
Dummy - head is Kyrgyz	1736	0.671	0.47	1736	0.671	0.47
Dummy - head is Uzbek	1736	0.191	0.393	1736	0.191	0.393
Dummy - head is Russian	1736	0.04	0.197	1736	0.04	0.197
Dummy - head is Dungan	1736	0.048	0.215	1736	0.048	0.215
Dummy - head is other ethnicity	1736	0.049	0.216	1736	0.049	0.216
Dummy - head has no more than basic education	1736	0.12	0.326	1736	0.12	0.326
Dummy - head completed secondary general education	1736	0.581	0.494	1736	0.581	0.494
Dummy - head completed primary/secondary technical education	1736	0.156	0.363	1736	0.156	0.363
Dummy - head completed university or higher education	1736	0.143	0.35	1736	0.143	0.35
Number of male adults in the household	1736	2.003	1.001	1736	2.003	1.001
Number of female adults in the household	1736	2.039	0.987	1736	2.039	0.987
Household size	1736	6.378	2.444	1736	6.378	2.444
Dummy - living in rural area	1736	0.679	0.467	1736	0.679	0.467
Panel D: Current levels of aspiration components						
Current household assets (normalized)	1736	-0.018	0.943	1736	-0.018	0.943
Current average education of household members (normalized)	1736	0.026	0.95	1736	0.035	0.916
Current household income (normalized)	1736	-0.03	0.891	1736	-0.03	0.891
Current individual security (normalized)	1736	-0.013	0.984	1736	0.021	1.008
Current individual social status (normalized)	1736	0.015	0.954	1736	0.089	0.948
Panel E: Weight controls						
Community mean weight of assets	1736	0.201	0.039	1736	0.201	0.039
Community mean weight of education	1736	0.169	0.04	1736	0.169	0.04
Community mean weight of income	1736	0.334	0.106	1736	0.334	0.106
Community mean weight of security	1736	0.151	0.051	1736	0.151	0.051
Community mean weight of social status	1736	0.146	0.038	1736	0.146	0.038
Individual weight assigned to asset	1736	0.202	0.078	1736	0.2	0.082
Individual weight assigned to education	1736	0.171	0.076	1736	0.171	0.081
Individual weight assigned to income	1736	0.327	0.151	1736	0.335	0.152
Individual weight assigned to security	1736	0.152	0.082	1736	0.151	0.083
Individual weight assigned to social status	1736	0.149	0.07	1736	0.142	0.068

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all spouses aged 18-54 who both answered the aspirations module in LIKS 2016 and appear at least once in regressions in this paper. The consensus index of women's decision-making power is the average of normalized values of 17 dummies of couple's consensus on women's decision-making power in the household. In the married pair sub-sample, if women and men both answer that women are involved in the decision-making in one decision, then the dummy for consensus of women's decision-making power is coded 1, missing if either is missing, and 0 if the couple don't agree. In calculating the index, we take the mean of all non-missing normalized values. Bride kidnapping marriage includes 4 types of bride kidnapping practice, from consensual to non-consensual (forced). The meaning of other variables is identical to Table 1.

Table 3: First stage results

	Overall sample		Married pair sub-sample		
	One's own aspiration index (1)	Wife's aspiration index (2)	Husband's aspiration index (3)	Model with 2 endogenous variables	
				Wife's aspiration index (4)	Husband's aspiration index (5)
One's own predicted aspiration index	0.985*** (0.016)				
Wife's predicted aspiration index		0.998*** (0.022)		0.998*** (0.028)	-0.062*** (0.022)
Husband's predicted aspiration index			0.986*** (0.018)	-0.001 (0.021)	1.017*** (0.023)
R^2	0.904	0.908	0.924	0.908	0.925
First-stage F-stat	3864	1983	2982	934.1	934.1
N	5684	1732	1732	1732	1732

Source: Authors' calculations based on LIKS 2016.

Notes: The universe for column (1) is all individuals aged 18-54 who answered the aspirations module in LIKS 2016 ("overall sample"). The universe for column (2) to (5) is all couples (married or living together) aged 18-54 who answered the aspirations module in LIKS 2016 ("married pair sub-sample"). Aspiration index is the sum of normalized values of 5 components of aspiration, weighted by the importance of each component assigned by the respondent. The aspiration index is instrumented by summing up the normalized values of aspiration in 5 dimensions, weighted by the community average weight in each dimension (excluding members of one's own household from the computation of community mean). All specifications include: 1) weight controls, the quadratic polynomials of community average weight and individual weight in each dimension; 2) geographic controls, i.e. oblast fixed effects and a dummy for living in rural area; 3) individual-level controls, including the individual's age, age², gender, marital status, education category, and dummies for being employed, living with parents, and living with parents-in-law; 4) household-level controls, i.e. age, age², gender, marital status, ethnicity and education category of the household head, household size, the number of adult male members, and the number of adult female members; 5) current levels of aspiration components, i.e. normalized values of current household income, household assets, average education level of household members, individual security and social status. A dummy for having an arranged marriage is also included in the individual-level controls when using the married pair sub-sample (column (2) to (5)). In married pair sub-sample, we include weight controls, individual-level controls and current levels of aspiration components of both wife and husband. Standard errors are in parentheses and clustered at community level. *** indicates p<0.01; ** indicates p<0.05; and * indicates p<0.10.

Table 4: Effects of one's own aspirations on women's empowerment indices

	Egalitarian gender attitudes index				Women's decision-making power index			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Controls added iteratively</i>								
Weight controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual-level controls		Yes	Yes	Yes		Yes	Yes	Yes
Household-level controls			Yes	Yes			Yes	Yes
Current levels of aspiration components				Yes				Yes
<i>Panel A: IV estimates</i>								
Aspiration index	0.147*** (0.032)	0.133*** (0.031)	0.140*** (0.030)	0.188*** (0.038)	0.055 (0.040)	0.074** (0.035)	0.073** (0.036)	0.072 (0.045)
Dummy - male		-0.197*** (0.023)	-0.179*** (0.024)	-0.179*** (0.024)		-0.178*** (0.029)	-0.174*** (0.026)	-0.172*** (0.026)
Dummy - married		-0.082*** (0.027)	-0.054** (0.022)	-0.053** (0.022)		0.152*** (0.045)	0.214*** (0.043)	0.221*** (0.043)
Dummy - being employed		0.112*** (0.027)	0.103*** (0.027)	0.101*** (0.027)		0.164*** (0.031)	0.150*** (0.031)	0.142*** (0.030)
Dummy - living with parents		-0.021 (0.024)	-0.030 (0.028)	-0.030 (0.028)		-0.320*** (0.050)	-0.316*** (0.052)	-0.307*** (0.052)
Dummy - living with parents-in-law		-0.017 (0.026)	-0.021 (0.030)	-0.020 (0.031)		-0.306*** (0.050)	-0.343*** (0.055)	-0.336*** (0.056)
R^2	0.155	0.201	0.215	0.220	0.103	0.388	0.414	0.420
First-stage F-stat	4816	4724	4742	3864	4788	4667	4687	3852
N	5684	5684	5684	5684	5679	5679	5679	5679
<i>Panel B: OLS estimates</i>								
Aspiration index	0.132*** (0.030)	0.119*** (0.029)	0.124*** (0.028)	0.152*** (0.035)	0.042 (0.037)	0.056* (0.032)	0.053 (0.032)	0.037 (0.037)
Dummy - male		-0.197*** (0.023)	-0.180*** (0.024)	-0.180*** (0.024)		-0.179*** (0.029)	-0.174*** (0.027)	-0.173*** (0.026)
Dummy - married		-0.081*** (0.027)	-0.053** (0.022)	-0.052** (0.022)		0.153*** (0.046)	0.215*** (0.044)	0.222*** (0.044)
Dummy - being employed		0.114*** (0.028)	0.106*** (0.027)	0.103*** (0.027)		0.167*** (0.032)	0.152*** (0.032)	0.144*** (0.031)
Dummy - living with parents		-0.020 (0.024)	-0.029 (0.028)	-0.029 (0.028)		-0.318*** (0.050)	-0.315*** (0.053)	-0.306*** (0.053)
Dummy - living with parents-in-law		-0.016 (0.026)	-0.021 (0.031)	-0.019 (0.031)		-0.305*** (0.051)	-0.343*** (0.056)	-0.336*** (0.057)
R^2	0.155	0.201	0.216	0.221	0.103	0.388	0.414	0.420
N	5684	5684	5684	5684	5679	5679	5679	5679

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all individuals aged 18-54 who answered the aspirations module in LIKS 2016. The egalitarian gender attitudes index is the average of normalized values of answers to 9 questions regarding to women's role in family and society. The women's decision-making power index is the average of normalized values of 17 dummies regarding to women's decision-making power in the household. In calculating both indices, we take the mean of all non-missing normalized values. Aspiration index is the sum of normalized values of 5 components of aspiration, weighted by the importance of each component assigned by the respondent. The aspiration index is instrumented by summing up the normalized values of aspiration in 5 dimensions, weighted by the community average weight in each dimension (excluding members of one's own household from the computation of community mean). Weight controls include the quadratic polynomials for community average weight and individual weight in each dimension. Geographic controls include the oblast fixed effects and a dummy for living in rural area. Individual-level controls include one's age, age², gender, marital status, education category, and dummies for being employed, living with parents, and living with parents-in-law. Household-level controls include the age, age², gender, marital status, ethnicity and education category of the household head. Also included are household size, the number of adult male members, and the number of adult female members. Current levels of aspiration components includes the normalized values of current household income, household assets, average education level of household members, individual security and social status. Standard errors are in parentheses and clustered at community level. *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

Table 5: Effects of aspirations on women's empowerment indices in the sample of married pairs

	Egalitarian gender attitudes index				Women's decision-making power index			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Controls added iteratively</i>								
Weight controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual-level controls		Yes	Yes	Yes		Yes	Yes	Yes
Household-level controls		Yes	Yes	Yes		Yes	Yes	Yes
Current levels of aspiration components		Yes	Yes	Yes		Yes	Yes	Yes
<i>Panel A: Wives sample, IV estimates</i>								
Wife's own aspiration index	0.135*** (0.042)	0.163*** (0.050)		0.110** (0.049)	0.034 (0.051)	0.073 (0.055)		0.030 (0.059)
Husband's aspiration index			0.162*** (0.044)	0.106*** (0.040)			0.102* (0.057)	0.086 (0.062)
R^2	0.255	0.299	0.303	0.304	0.194	0.426	0.428	0.428
First-stage F-stat	1552	1983	2982	934.1	1558	1943	2956	928.6
N	1732	1732	1732	1732	1734	1734	1734	1734
<i>Panel B: Wives sample, OLS estimates</i>								
Wife's own aspiration index	0.117*** (0.043)	0.126** (0.048)		0.068 (0.045)	0.017 (0.047)	0.049 (0.046)		0.010 (0.049)
Husband's aspiration index			0.155*** (0.044)	0.124*** (0.041)			0.088* (0.048)	0.083 (0.053)
R^2	0.255	0.299	0.303	0.305	0.194	0.426	0.428	0.428
N	1732	1732	1732	1732	1734	1734	1734	1734
<i>Panel C: Husbands sample, IV estimates</i>								
Husband's own aspiration index	0.132*** (0.039)	0.143*** (0.044)		0.101*** (0.037)	0.066 (0.042)	0.070 (0.059)		0.003 (0.059)
Wife's aspiration index			0.133*** (0.047)	0.083** (0.041)			0.132** (0.057)	0.130** (0.059)
R^2	0.183	0.250	0.246	0.251	0.216	0.418	0.418	0.418
First-stage F-stat	3164	2982	1983	934.1	3178	2956	1943	928.6
N	1732	1732	1732	1732	1734	1734	1734	1734
<i>Panel D: Husbands sample, OLS estimates</i>								
Husband's own aspiration index	0.125*** (0.037)	0.128*** (0.043)		0.107*** (0.037)	0.047 (0.040)	0.028 (0.049)		-0.005 (0.051)
Wife's aspiration index			0.098** (0.044)	0.048 (0.038)			0.071 (0.047)	0.073 (0.050)
R^2	0.183	0.250	0.247	0.251	0.217	0.418	0.419	0.419
N	1732	1732	1732	1732	1734	1734	1734	1734

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all couples (married or living together) aged 18-54 who answered the aspirations module in LIKS 2016. The egalitarian gender attitudes index is the average of normalized values of answers to 9 questions regarding to women's role in family and society. The women's decision-making power index is the average of normalized values of 17 dummies regarding to women's decision-making power in the household. In calculating both indices, we take the mean of all non-missing normalized values. Aspiration index is the sum of normalized values of 5 components of aspiration, weighted by the importance of each component assigned by the respondent. The aspiration index is instrumented by summing up the normalized values of aspiration in 5 dimensions, weighted by the community average weight in each dimension (excluding members of one's own household from the computation of community mean). Weight controls include the quadratic polynomials for community average weight and individual weight in each dimension. Geographic controls include the oblast fixed effects and a dummy for living in rural area. Individual-level controls include one's age, age², gender, marital status, education category, and dummies for being employed, having an arranged marriage, living with parents, and living with parents-in-law. Household-level controls include the age, age², gender, marital status, ethnicity and education category of the household head. Also included are household size, the number of adult male members, and the number of adult female members. Current levels of aspiration components includes the normalized values of current household income, household assets, average education level of household members, individual security and social status. We include weight controls, individual-level controls and current levels of aspiration components of both wife and husband. Standard errors are in parentheses and clustered at community level. *** indicates p<0.01; ** indicates p<0.05; and * indicates p<0.10.

Table 6: Effects of aspirations on couple's consensus of women's involvement in household decision-making

	Consensus index of women's decision-making power				
	(1)	(2)	(3)	(4)	(5)
<i>Controls added iteratively</i>					
Weight controls	Yes	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes	Yes
Individual-level controls			Yes	Yes	Yes
Household-level controls			Yes	Yes	Yes
Current levels of aspiration components			Yes	Yes	Yes
<i>Panel A: IV estimates</i>					
Wife's aspiration index	0.095*		0.157***		0.118*
	(0.049)		(0.060)		(0.061)
Husband's aspiration index		0.074		0.139**	0.078
		(0.046)		(0.055)	(0.052)
R^2	0.240	0.240	0.446	0.446	0.446
First-stage F-stat	1558	3178	1943	2956	928.6
N	1734	1734	1734	1734	1734
<i>Panel B: OLS estimates</i>					
Wife's aspiration index	0.062		0.102**		0.073
	(0.045)		(0.049)		(0.049)
Husband's aspiration index		0.060		0.096*	0.062
		(0.043)		(0.048)	(0.047)
R^2	0.240	0.241	0.446	0.446	0.447
N	1734	1734	1734	1734	1734

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all couples (married or living together) aged 18-54 who answered the aspirations module in LIKS 2016. The consensus index of women's decision-making power is the average of normalized values of 17 dummies of couple's consensus on women's decision-making power in the household. In the married pair sub-sample, if women and men both answer that women are involved in the decision-making in a decision, then the dummy for consensus of women's decision-making power is coded 1, missing if either (or both) is missing, and 0 if the couple don't agree. We take the mean of all non-missing normalized values. The construction of aspiration index and its instrument, as well as the meaning of the control sets, are identical to Table 5. Standard errors are in parentheses and clustered at community level. *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

Table 7: Effects of aspirations on women’s empowerment sub-indices: IV results

	Marital decisions (1)	Major economic decisions (2)	Financial management decisions (3)	Non- financial decisions (4)
<i>Panel A: Overall sample</i>				
One’s own aspiration index	0.013 (0.056)	0.081 (0.050)	0.102** (0.050)	0.051 (0.052)
R^2	0.381	0.331	0.409	0.288
First-stage F-stat	2911	3828	3840	3768
N	4609	5660	5669	5635
<i>Panel B: Wives sample</i>				
Wife’s own aspiration index	-0.031 (0.063)	0.026 (0.064)	0.090 (0.072)	0.008 (0.085)
Husband’s aspiration index	0.092 (0.071)	0.071 (0.061)	0.122* (0.069)	0.007 (0.086)
R^2	0.429	0.349	0.413	0.254
First-stage F-stat	810.1	919.3	926.9	927.1
N	1343	1733	1733	1726
<i>Panel C: Husbands sample</i>				
Husband’s own aspiration index	-0.015 (0.074)	0.019 (0.059)	0.026 (0.076)	-0.056 (0.093)
Wife’s aspiration index	0.058 (0.080)	0.113 (0.069)	0.156** (0.065)	0.142 (0.088)
R^2	0.386	0.356	0.388	0.298
First-stage F-stat	857	923.8	933	937.5
N	1370	1734	1735	1728
<i>Panel D: Couples sample</i>				
	Couple’s consensus sub-indices			
Wife’s aspiration index	0.046 (0.067)	0.111* (0.066)	0.164** (0.072)	0.139 (0.086)
Husband’s aspiration index	0.085 (0.071)	0.074 (0.051)	0.097 (0.060)	-0.016 (0.087)
R^2	0.462	0.361	0.432	0.311
First-stage F-stat	785.5	919.9	926.9	929
N	1286	1732	1731	1720

Source: Authors’ calculations based on LIKS 2016.

Notes: The universe for Panel A regressions is all individuals aged 18-54 who answered the aspirations module in LIKS 2016. The universe for Panel B, C, and D regressions is all couples (married or living together) aged 18-54 who answered the aspirations module in LIKS 2016. Each women’s decision-making power sub-index is the average of normalized values of answers to a few questions regarding to women’s decision-making power in the household. The consensus sub-index of women’s decision-making power is the average of normalized values of a few dummies of couple’s consensus on women’s decision-making power in the household. In the married pair sub-sample, if women and men both answer that women are involved in the decision-making in one decision, then the dummy for consensus of women’s involvement is coded 1, missing if either is missing, and 0 if the couple don’t agree. Appendix Table A4 lists all questions included in each sub-index. In calculating all sub-indices, we take the mean of all non-missing values. Aspiration index is the sum of normalized values of 5 components of aspiration, weighted by the importance of each component assigned by the respondent. The aspiration index is instrumented by summing up the normalized values of aspiration in 5 dimensions, weighted by the community average weight in each dimension (excluding members of one’s own household from the computation of community mean). All specifications include: 1) weight controls, the quadratic polynomials of community average weight and individual weight in each dimension; 2) geographic controls, i.e. oblast fixed effects and a dummy for living in rural area; 3) individual-level controls, including the individual’s age, age², gender, marital status, education category, and dummies for being employed, living with parents, and living with parents-in-law; 4) household-level controls, i.e. the age, age², gender, marital status, ethnicity and education category of the household head, household size, the number of adult male members, and the number of adult female members; 5) current levels of aspiration components, i.e. the normalized values of current household income, household assets, average education level of household members, individual security and social status. A dummy for having an arranged marriage is also included in the individual-level controls when using the married pair sub-sample (Panel B, C, and D). In married pair sub-sample, we include weight controls, individual-level controls and current levels of aspiration components of both wife and husband. Standard errors are in parentheses and clustered at community level. *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

Table 8: Effects of aspirations on women’s empowerment indices by income strata (household income per adult equivalent): IV results

	Egalitarian gender attitudes index			Women’s decision-making power index		
	Bottom tercile (1)	Middle tercile (2)	Top tercile (3)	Bottom tercile (4)	Middle tercile (5)	Top tercile (6)
<i>Panel A: Overall sample</i>						
One’s own aspiration index	0.105* (0.055)	0.172*** (0.050)	0.167*** (0.050)	0.140** (0.067)	0.042 (0.076)	0.005 (0.050)
R-squared	0.267	0.301	0.235	0.437	0.434	0.470
First-stage F-stat	1812	2549	1563	1886	2514	1611
Observations	1876	1916	1892	1872	1914	1893
<i>Panel B: Wives sample</i>						
Wife’s own aspiration index	0.030 (0.078)	0.079 (0.081)	0.103* (0.059)	0.046 (0.100)	0.043 (0.109)	0.079 (0.070)
Husband’s aspiration index	0.093 (0.098)	-0.006 (0.055)	0.113** (0.058)	0.134 (0.113)	0.049 (0.106)	0.009 (0.055)
R^2	0.438	0.401	0.344	0.474	0.502	0.484
First-stage F-stat	644.3	441.8	295.1	645.4	441.8	292.6
N	613	588	534	612	588	535
<i>Panel C: Husbands sample</i>						
Husband’s own aspiration index	-0.064 (0.088)	0.139** (0.059)	0.090** (0.045)	-0.026 (0.091)	-0.013 (0.102)	0.019 (0.066)
Wife’s aspiration index	0.003 (0.068)	0.104 (0.067)	0.059 (0.059)	0.181** (0.086)	0.180* (0.093)	0.074 (0.080)
R^2	0.321	0.360	0.378	0.455	0.475	0.479
First-stage F-stat	631.5	436.2	294.3	644.6	435.8	292.6
N	612	588	534	612	589	535
<i>Panel D: Couples sample</i>				Couple’s consensus index		
Wife’s aspiration index	0.122 (0.092)			0.198* (0.105)	0.094 (0.080)	
Husband’s aspiration index	0.138 (0.098)			-0.032 (0.100)	0.083 (0.064)	
R^2	0.464			0.489	0.540	
First-stage F-stat	645.7			441.8	292.6	
N	611			588	535	

Source: Authors’ calculations based on LIKS 2016.

Notes: The income tercile is determined by income per adult equivalent. All members in a household have the same income per adult equivalent. The universe for Panel A regressions is all individuals aged 18-54 who answered the aspirations module in LIKS 2016. The universe for Panel B, C, and D regressions is all couples (married or living together) aged 18-54 who answered the aspirations module in LIKS 2016. The egalitarian gender attitudes index is the average of normalized values of answers to 9 questions regarding to women’s role in family and society. The women’s decision-making power index is the average of normalized values of 17 dummies regarding to women’s decision-making power in the household. The consensus index of women’s decision-making power is the average of normalized values of 17 dummies of couple’s consensus on women’s decision-making power in the household. In the married pair sub-sample, if women and men both answer that women are involved in the decision-making in one decision, then the dummy for consensus of women’s involvement is coded 1, missing if either is missing, and 0 if the couple don’t agree. In calculating all indices, we take the mean of all non-missing normalized values. Aspiration index is the sum of normalized values of 5 components of aspiration, weighted by the importance of each component assigned by the respondent. The aspiration index is instrumented by summing up the normalized values of aspiration in 5 dimensions, weighted by the community average weight in each dimension (excluding members of one’s own household from the computation of community mean). All specifications include: 1) weight controls, the quadratic polynomials of community average weight and individual weight in each dimension; 2) geographic controls, i.e. oblast fixed effects and a dummy for living in rural area; 3) individual-level controls, including the individual’s age, age², gender, marital status, education category, and dummies for being employed, living with parents, and living with parents-in-law; 4) household-level controls, i.e. the age, age², gender, marital status, ethnicity and education category of the household head, household size, the number of adult male members, and the number of adult female members; 5) current levels of aspiration components, i.e. the normalized values of current household income, household assets, average education level of household members, individual security and social status. A dummy for having an arranged marriage is also included in the individual-level controls when using the married pair sub-sample (Panel B, C, and D). In married pair sub-sample, we include weight controls, individual-level controls and current levels of aspiration components of both wife and husband. Standard errors are in parentheses and clustered at community level. *** indicates p<0.01; ** indicates p<0.05; and * indicates p<0.10.

Table 9: Effects of aspirations on women's empowerment indices by urbanization status: IV results

	Egalitarian gender attitudes index		Women's decision-making power index	
	Urban (1)	Rural (2)	Urban (3)	Rural (4)
<i>Panel A: Overall sample</i>				
One's own aspiration index	0.162*** (0.051)	0.183*** (0.044)	-0.083 (0.074)	0.123** (0.052)
R^2	0.294	0.229	0.462	0.425
First-stage F-stat	1538	2819	1355	2824
N	1989	3695	1986	3693
<i>Panel B: Wives sample</i>				
Wife's own aspiration index	0.101 (0.086)	0.103** (0.047)	-0.009 (0.081)	0.042 (0.072)
Husband's aspiration index	0.082 (0.055)	0.118** (0.052)	0.054 (0.085)	0.091 (0.084)
R^2	0.402	0.354	0.598	0.408
First-stage F-stat	286.7	743.1	277.1	743.1
N	556	1179	556	1179
<i>Panel C: Husbands sample</i>				
Husband's own aspiration index	0.092** (0.045)	0.076* (0.046)	-0.081 (0.095)	0.033 (0.072)
Wife's aspiration index	0.017 (0.105)	0.079* (0.042)	-0.024 (0.089)	0.167** (0.068)
R^2	0.411	0.279	0.585	0.400
First-stage F-stat	273.1	742	283.1	742.9
N	556	1178	558	1178
<i>Panel D: Couples sample</i>			Couple's consensus index	
Wife's aspiration index			-0.039 (0.073)	0.159** (0.069)
Husband's aspiration index			0.038 (0.083)	0.071 (0.068)
R^2			0.623	0.416
First-stage F-stat			277.1	742.9
N			556	1178

Source: Authors' calculations based on LIKS 2016.

Notes: Except for the cities of Bishkek and Osh, all 7 oblasts have both rural and urban area. The universe of each panel, construction of outcome variables, aspiration index, and the instrument, and the controls included, are identical to Table 8. Standard errors are in parentheses and clustered at community level. *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

Table 10: Effects of aspirations on women's empowerment indices by type of marriage: IV results

	Egalitarian gender attitudes index			Women's decision-making power index		
	Bride kidnapping	Arranged	Love	Bride kidnapping	Arranged	Love
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Wives sample</i>						
Wife's own aspiration index	0.023 (0.053)	0.132* (0.077)	0.141 (0.094)	0.062 (0.092)	-0.053 (0.110)	0.053 (0.089)
Husband's aspiration index	0.097 (0.064)	0.165*** (0.057)	0.062 (0.060)	0.035 (0.097)	0.141 (0.095)	0.028 (0.077)
R^2	0.561	0.371	0.350	0.533	0.436	0.491
First-stage F-stat	653.8	435	702.8	653.8	435	694.4
N	392	747	602	392	747	602
<i>Panel B: Husbands sample</i>						
Husband's own aspiration index	0.043 (0.076)	0.118** (0.056)	0.100** (0.049)	-0.204** (0.097)	0.074 (0.087)	0.079 (0.074)
Wife's aspiration index	0.015 (0.056)	0.090 (0.062)	0.060 (0.089)	0.193** (0.081)	0.154* (0.091)	0.035 (0.103)
R^2	0.417	0.379	0.318	0.589	0.476	0.441
First-stage F-stat	653.8	438.4	703.6	653.8	435	690.7
N	392	746	602	392	747	603
<i>Panel D: Couples sample</i>				Couple's consensus index		
Wife's aspiration index	0.156* (0.089)			0.077 (0.103)	0.035 (0.086)	
Husband's aspiration index	-0.045 (0.093)			0.105 (0.082)	0.140** (0.062)	
R^2	0.579			0.468	0.483	
First-stage F-stat	653.8			435	689.2	
N	392			747	601	

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all couples (married or living together) aged 18-54 who answered the aspirations module in LIKS 2016. Bride kidnapping marriage includes 4 types of bride kidnapping practice, from consensual to non-consensual (forced). We use wife's report of the type of marriage to identify the type of marriage for the married pair. The construction of women's empowerment indices, aspiration index, and the instrument and the controls included are identical to Table 8, except that there is no control for having an arranged marriage in this table. Standard errors are in parentheses and clustered at community level. *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

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Appendix A Tables

Table A1: Summary statistics by group - overall sample

	N (1)	Mean (2)	SD (3)
Panel A: Summary statistics by gender			
Female			
Egalitarian gender attitudes index	2889	0.07	0.538
Women's decision-making power index	2883	0.013	0.768
Aspiration index	2893	-0.014	0.533
Male			
Egalitarian gender attitudes index	2795	-0.099	0.483
Women's decision-making power index	2796	-0.171	0.784
Aspiration index	2805	-0.013	0.541
Panel B: Summary statistics by income strata			
Bottom tercile			
Egalitarian gender attitudes index	1876	-0.052	0.534
Women's decision-making power index	1872	-0.099	0.762
Aspiration index	1881	-0.225	0.412
Middle tercile			
Egalitarian gender attitudes index	1916	0.008	0.522
Women's decision-making power index	1914	-0.109	0.804
Aspiration index	1917	-0.046	0.397
Top tercile			
Egalitarian gender attitudes index	1892	0.004	0.498
Women's decision-making power index	1893	-0.024	0.775
Aspiration index	1900	0.229	0.659
Panel C: Summary statistics by urban/rural			
Urban			
Egalitarian gender attitudes index	1989	0.065	0.508
Women's decision-making power index	1986	0.018	0.774
Aspiration index	1999	0.09	0.449
Rural			
Egalitarian gender attitudes index	3695	-0.055	0.52
Women's decision-making power index	3693	-0.129	0.78
Aspiration index	3699	-0.069	0.571
Panel D: Summary statistics by region			
North			
Egalitarian gender attitudes index	2555	0.065	0.562
Women's decision-making power index	2550	0.078	0.784
Aspiration index	2568	-0.088	0.423
South			
Egalitarian gender attitudes index	3129	-0.077	0.471
Women's decision-making power index	3129	-0.204	0.756
Aspiration index	3130	0.048	0.609

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all individuals aged 18-54 who answered the aspirations module in LIKS 2016. The construction of women's empowerment indices and aspiration index is identical to Table 1. Income terciles are determined by income per adult equivalent. North Kyrgyzstan includes Talas, Chui, Issyk-Kul, Naryn, and Bishkek. South Kyrgyzstan includes Jalal-Abad, Batken, Osh, and Osh city.

Table A2: Summary statistics by group - married pair sub-sample

	N	Mean	SD
	(1)	(2)	(3)
Panel A: Summary statistics by income strata			
Bottom tercile			
Wife's egalitarian gender attitudes index	613	0.037	0.561
Wife's women decision-making power index	612	0.09	0.683
Wife's aspiration index	613	-0.219	0.41
Husband's egalitarian gender attitudes index	612	-0.153	0.488
Husband's women decision-making power index	612	0.015	0.677
Husband's aspiration index	613	-0.203	0.391
Consensus index of of women's decision-making power	611	0.004	0.705
Middle tercile			
Wife's egalitarian gender attitudes index	588	0.047	0.509
Wife's women decision-making power index	588	0.045	0.749
Wife's aspiration index	588	-0.03	0.377
Husband's egalitarian gender attitudes index	587	-0.069	0.475
Husband's women decision-making power index	588	0.045	0.718
Husband's aspiration index	588	-0.033	0.388
Consensus index of of women's decision-making power	588	0.014	0.749
Top tercile			
Wife's egalitarian gender attitudes index	534	0.037	0.493
Wife's women decision-making power index	535	0.213	0.657
Wife's aspiration index	535	0.224	0.622
Husband's egalitarian gender attitudes index	534	-0.056	0.472
Husband's women decision-making power index	535	0.188	0.636
Husband's aspiration index	535	0.262	0.667
Consensus index of of women's decision-making power	535	0.178	0.693
Panel B: Summary statistics by urban/rural			
Urban			
Wife's egalitarian gender attitudes index	556	0.073	0.491
Wife's women decision-making power index	556	0.207	0.68
Wife's aspiration index	557	0.112	0.417
Husband's egalitarian gender attitudes index	555	-0.024	0.468
Husband's women decision-making power index	557	0.222	0.631
Husband's aspiration index	557	0.108	0.423
Consensus index of of women's decision-making power	556	0.201	0.704
Rural			
Wife's egalitarian gender attitudes index	1179	0.025	0.537
Wife's women decision-making power index	1179	0.068	0.707
Wife's aspiration index	1179	-0.081	0.536
Husband's egalitarian gender attitudes index	1178	-0.128	0.483
Husband's women decision-making power index	1178	0.01	0.696
Husband's aspiration index	1179	-0.054	0.562
Consensus index of of women's decision-making power	1178	-0.005	0.719
Panel C: Summary statistics by region			
North			
Wife's egalitarian gender attitudes index	729	0.187	0.572
Wife's women decision-making power index	729	0.375	0.579
Wife's aspiration index	730	-0.078	0.386
Husband's egalitarian gender attitudes index	727	-0.101	0.49
Husband's women decision-making power index	729	0.281	0.622
Husband's aspiration index	730	-0.067	0.402
Consensus index of of women's decision-making power	728	0.303	0.663
South			
Wife's egalitarian gender attitudes index	1006	-0.066	0.456
Wife's women decision-making power index	1006	-0.077	0.721
Wife's aspiration index	1006	0.024	0.578
Husband's egalitarian gender attitudes index	1006	-0.09	0.474
Husband's women decision-making power index	1006	-0.068	0.687
Husband's aspiration index	1006	0.045	0.598
Consensus index of of women's decision-making power	1006	-0.114	0.71
Panel D: Summary statistics by type of marriage			
Bride kidnapping			
Wife's egalitarian gender attitudes index	390	0.038	0.525
Wife's women decision-making power index	390	0.045	0.702
Wife's aspiration index	390	-0.046	0.637
Husband's egalitarian gender attitudes index	390	-0.125	0.449
Husband's women decision-making power index	390	-0.013	0.698
Husband's aspiration index	390	-0.021	0.611
Consensus index of of women's decision-making power	390	-0.073	0.731
Arranged marriage			
Wife's egalitarian gender attitudes index	746	0.042	0.504
Wife's women decision-making power index	746	0.028	0.701
Wife's aspiration index	746	-0.02	0.488
Husband's egalitarian gender attitudes index	745	-0.046	0.481
Husband's women decision-making power index	746	0.029	0.676
Husband's aspiration index	746	-0.003	0.538
Consensus index of of women's decision-making power	746	0.012	0.697
Love marriage			
Wife's egalitarian gender attitudes index	599	0.041	0.545
Wife's women decision-making power index	599	0.263	0.677
Wife's aspiration index	600	0	0.435
Husband's egalitarian gender attitudes index	598	-0.135	0.495
Husband's women decision-making power index	599	0.199	0.665
Husband's aspiration index	600	0.011	0.449
Consensus index of of women's decision-making power	598	0.21	0.718

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all spouses aged 18-54 who answered the aspirations module in LIKS 2016. The universe and the construction of consensus index of women's decision-making power is identical to Table 2. The construction of other women's empowerment indices and aspiration index is identical to Table 1. Income terciles are determined by income per adult equivalent. North Kyrgyzstan includes Talas, Chui, Issyk-Kul, Naryn, and Bishkek. South Kyrgyzstan includes Jalal-Abad, Batken, Osh, and Osh city. Bride kidnapping marriage includes 4 types of bride kidnapping, from consensual to non-consensual (forced).

Table A3: Missing pattern of gender attitudes questions by gender

Statement	Female		Male		Diff	SE
	Proportion	N	Proportion	N		
(1) Important decisions should be made by the husband rather than the wife ("Decision-making")	0.024	2893	0.024	2805	0.001	(0.004)
(2) A man's job is to earn money; a woman's job is to look after the home and family ("Division of labor")	0.013	2893	0.014	2805	-0.001	(0.003)
(3) A woman is really fulfilled only when she becomes a mother ("Motherhood")	0.045	2893	0.105	2805	-0.060***	(0.007)
(4) A working woman can establish just as warm and secure relationship with her children as a mother who does not work ("Relationship with kids")	0.041	2893	0.071	2805	-0.030***	(0.006)
(5) Husband's career should be more important to the wife than her own ("Career")	0.029	2893	0.028	2805	0.001	(0.004)
(6) A university education is more important for a boy than for a girl ("University education")	0.039	2893	0.042	2805	-0.002	(0.005)
(7) Both the husband and the wife should contribute to the household income ("Income")	0.025	2893	0.023	2805	0.002	(0.004)
(8) Being a housewife is just as fulfilling as working for pay ("Fulfilling housewife")	0.073	2893	0.159	2805	-0.086***	(0.008)
(9) Woman should not work outside her home due to religious considerations ("Work and religion")	0.080	2893	0.098	2805	-0.018**	(0.008)

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all individuals aged 18-54 who answered the aspirations module in LIKS 2016. We code the dummy for missing 1 if the respondent did not fill the section or answered "don't know". *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

Table A4: Missing pattern of decision-making questions by gender

Decision	Female		Male		Diff	SE
	Proportion	N	Proportion	N		
Panel A: Marital decisions						
(1) marriage of male household members (“Marriage: male”)	0.259	2893	0.211	2805	0.048***	(0.011)
(2) marriage of female household members (“Marriage: female”)	0.244	2893	0.252	2805	-0.007	(0.011)
(3) how much kalym to pay for bride (“Bride price”)	0.323	2893	0.283	2805	0.040***	(0.012)
Panel B: Major economic decisions						
(4) where male household member should work (“Work: male”)	0.067	2893	0.026	2805	0.041***	(0.006)
(5) where female household member should work (“Work: female”)	0.076	2893	0.092	2805	-0.016**	(0.007)
(6) whether to buy major items (e.g. car, house) (“Purchase”)	0.097	2893	0.090	2805	0.007	(0.008)
(7) migration of a household member (“Migration”)	0.274	2893	0.263	2805	0.012	(0.012)
(8) which production crop to cultivate (“Production”)	0.213	2893	0.189	2805	0.024**	(0.011)
(9) when and at what price to sell the harvest or livestock (“Sales”)	0.221	2893	0.196	2805	0.024**	(0.011)
Panel C: Financial management decisions						
(10) whether or not to lend money to others (“Lending”)	0.043	2893	0.037	2805	0.006	(0.005)
(11) how much to save of household income (“Saving”)	0.015	2893	0.011	2805	0.005	(0.003)
(12) how much money to present to relative on wedding / celebration/ funerals (“Present”)	0.032	2893	0.024	2805	0.008*	(0.004)
(13) whether or not to borrow money from others (“Borrowing”)	0.057	2893	0.048	2805	0.009	(0.006)
(14) how to use remittances (“Remittances”)	0.337	2893	0.335	2805	0.002	(0.013)
(15) children’s education and health (“Children”)	0.072	2893	0.089	2805	-0.018**	(0.007)
Panel D: Non-financial decisions						
(16) negotiating with neighbors (“Neighbor”)	0.015	2893	0.014	2805	0.001	(0.003)
(17) participation to discuss community issues (“Community”)	0.055	2893	0.054	2805	0.001	(0.006)

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all individuals aged 18-54 who answered the aspirations module in LIKS 2016. We code the dummy for missing 1 if the respondent did not fill the section, answered "not applicable" or "don't know". *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

Table A5: Number of gender attitudes questions answered

Number of gender attitudes questions answered	Frequency	Percentage	Cumulative percentage
(1)	(2)	(3)	(4)
0	14	0.25	0.25
1	5	0.09	0.33
2	8	0.14	0.47
3	12	0.21	0.68
4	29	0.51	1.19
5	118	2.07	3.26
6	197	3.46	6.72
7	312	5.48	12.2
8	523	9.18	21.38
9	4480	78.62	100
Total	5698	100	100

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all individuals aged 18-54 who answered the aspirations module in LIKS 2016. The gender attitudes questions are 9 questions regarding to women's role in family and society. Appendix Table A3 lists all gender attitudes questions.

Table A6: Number of women's decision-making questions answered

Number of decision-making questions answered	Frequency	Percentage	Cumulative percentage
(1)	(2)	(3)	(4)
0	19	0.33	0.33
1	8	0.14	0.47
2	9	0.16	0.63
3	9	0.16	0.79
4	7	0.12	0.91
5	12	0.21	1.12
6	33	0.58	1.7
7	57	1	2.7
8	100	1.76	4.46
9	166	2.91	7.37
10	242	4.25	11.62
11	245	4.3	15.92
12	304	5.34	21.25
13	383	6.72	27.97
14	355	6.23	34.2
15	640	11.23	45.44
16	488	8.56	54
17	2621	46	100
Total	5698	100	100

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all individuals aged 18-54 who answered the aspirations module in LIKS 2016. The women's decision-making power index is the average of normalized values of 17 dummies regarding to women's decision-making power in the household. In calculating the index, we take the mean of all non-missing values.

Table A7: The relationship between community-mean weights and individual weights in five dimensions: OLS results

	Weight the individual assigned to...				
	(1) Assets	(2) Education	(3) Income	(4) Security	(5) Social status
<i>Panel A: Full sample</i>					
Community average weight of assets	0.848*** (0.031)				
Community average weight of education		0.888*** (0.027)			
Community average weight of income			0.947*** (0.015)		
Community average weight of security				0.905*** (0.017)	
Community average weight of social status					0.868*** (0.026)
R^2	0.202	0.221	0.414	0.299	0.245
N	5698	5698	5698	5698	5698
<i>Panel B: Wives sample</i>					
Community average weight of assets	0.762*** (0.054)				
Community average weight of education		0.926*** (0.042)			
Community average weight of income			0.945*** (0.030)		
Community average weight of security				0.912*** (0.039)	
Community average weight of social status					0.844*** (0.056)
R^2	0.211	0.259	0.478	0.360	0.294
N	1736	1736	1736	1736	1736
<i>Panel C: Husbands sample</i>					
Community average weight of assets	0.762*** (0.054)				
Community average weight of education		0.926*** (0.042)			
Community average weight of income			0.945*** (0.030)		
Community average weight of security				0.912*** (0.039)	
Community average weight of social status					0.844*** (0.056)
R^2	0.211	0.259	0.478	0.360	0.294
N	1736	1736	1736	1736	1736

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all individuals aged 18-54 who answered the aspirations module in LIKS 2016. The community-level mean weights for each dimension is the average weight of all individuals in the same community in that dimension, excluding members of one's own household from the computation of the mean. The community-level mean weights are the same for wife and husband. All specifications include: 1) geographic controls, i.e. oblast fixed effects and a dummy for living in rural area; 2) individual-level controls, including the individual's age, age², gender, marital status, education category, and dummies for being employed, living with parents, and living with parents-in-law; 3) household-level controls, i.e. the age, age², gender, marital status, ethnicity and education category of the household head, household size, the number of adult male members, and the number of adult female members; 4) current levels of aspiration components, i.e. the normalized values of current household income, household assets, average education level of household members, individual security and social status. A dummy for having an arranged marriage is also included in the individual-level controls when using the married pair sub-sample (Panel B and C). In married pair sub-sample, we include individual-level controls and current levels of aspiration components of both wife and husband. Standard errors are in parentheses and clustered at community level. *** indicates p<0.01; ** indicates p<0.05; and * indicates p<0.10.

Table A8: Effects of one's own aspirations on women's empowerment indices by gender: IV results

	Egalitarian gender attitudes index		Women's decision-making power index	
	Female (1)	Male (2)	Female (3)	Male (4)
One's own aspiration index	0.234*** (0.038)	0.140*** (0.043)	0.053 (0.048)	0.078 (0.058)
R^2	0.292	0.189	0.452	0.407
First-stage F-stat	2386	2751	2326	2708
N	2889	2795	2883	2796

Source: Authors' calculations based on LIKS 2016.

Notes: The universe, the construction of outcome variables, aspiration index, and instrument, and the controls included, are identical to Table 4. Standard errors are in parentheses and clustered at community level. *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

Table A9: Effects of aspirations on each component of gender attitudes index: IV results

	9 questions about gender attitudes								
	(1) “Decision- making”	(2) “Division of labor”	(3) “Motherhood”	(4) “Relationship with kids”	(5) “Career”	(6) “University education”	(7) “Income”	(8) “Fulfilling housewife”	(9) “Work and religion”
<i>Panel A: Overall sample</i>									
One’s aspiration index (AI)	0.388*** (0.083)	0.111 (0.074)	-0.140** (0.059)	0.104 (0.086)	0.298*** (0.067)	0.339*** (0.068)	0.211*** (0.069)	0.058 (0.077)	0.357*** (0.070)
R^2	0.165	0.189	0.208	0.108	0.142	0.182	0.120	0.153	0.240
First-stage F-stat	3672	3895	3697	4030	3882	4219	3919	3558	3152
N	5562	5621	5275	5379	5536	5467	5561	5040	5192
<i>Panel B: Wives sample</i>									
Wife’s own aspiration index	0.306*** (0.102)	0.084 (0.088)	-0.179** (0.090)	-0.004 (0.122)	0.246*** (0.093)	0.239** (0.096)	0.184* (0.097)	-0.066 (0.099)	0.177** (0.087)
Husband’s aspiration index	0.261*** (0.083)	0.049 (0.089)	-0.009 (0.082)	0.179 (0.119)	0.096 (0.082)	0.156* (0.086)	-0.022 (0.087)	0.038 (0.081)	0.201** (0.083)
R^2	0.222	0.240	0.295	0.152	0.208	0.225	0.183	0.228	0.298
First-stage F-stat	908.3	885.6	916.2	937	898.4	921.5	873.4	863.5	902.2
N	1716	1718	1695	1689	1698	1675	1695	1641	1615
<i>Panel C: Husbands sample</i>									
Husband’s own AI	0.143 (0.087)	0.020 (0.068)	-0.047 (0.093)	0.065 (0.102)	0.121 (0.076)	0.231*** (0.080)	0.173** (0.087)	0.034 (0.080)	0.202** (0.080)
Wife’s aspiration index	0.266*** (0.077)	0.080 (0.075)	-0.209** (0.091)	-0.042 (0.095)	0.221*** (0.081)	0.130 (0.083)	0.153* (0.084)	-0.045 (0.077)	0.183* (0.098)
R^2	0.236	0.241	0.249	0.167	0.204	0.243	0.175	0.157	0.279
First-stage F-stat	924	922.8	924.7	1176	885.9	962.1	913	1083	860.9
N	1720	1725	1618	1662	1702	1680	1708	1506	1603

Source: Authors’ calculations based on LIKS 2016.

Notes: The universe for Panel A regressions is all individuals aged 18-54 who answered the aspirations module in LIKS 2016. The universe for Panel B and C regressions is all couples (married or living together) aged 18-54 who answered the aspirations module in LIKS 2016. The dependent variable is the normalized value of individual’s answer to each question. Individuals choose the degree of agreement to each statement about women’s role in family and society along a scale of 4. Appendix Table A3 lists all questions about gender attitudes. The construction of aspiration index and the instrument, as well as the controls included, is identical to Table 8. Standard errors are in parentheses and clustered at community level. *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

Table A10: Effects of aspirations on each component of women's decision-making index: IV results

	17 questions about women's involvement in household decisions/consensus of women's involvement...								
	(1) "Marriage: male"	(2) "Marriage: female"	(3) "Bride price"	(4) "Work: male"	(5) "Work: female"	(6) "Purchase"	(7) "Migration"	(8) "Production"	(9) "Sales"
<i>Panel A: Overall sample</i>									
One's own aspiration index (AI)	0.014 (0.032)	0.007 (0.026)	-0.024 (0.028)	-0.046 (0.030)	0.079*** (0.028)	0.060* (0.037)	0.077** (0.034)	0.037 (0.040)	0.035 (0.039)
R^2	0.328	0.367	0.362	0.191	0.292	0.285	0.280	0.249	0.269
First-stage F-stat	2624	2658	2683	3598	3727	3470	2990	3342	4060
N	4356	4285	3971	5430	5220	5165	4167	4552	4510
<i>Panel B: Wives sub-sample</i>									
Wife's own aspiration index	0.005 (0.040)	-0.027 (0.037)	-0.051 (0.037)	-0.054 (0.046)	0.086** (0.042)	0.046 (0.044)	0.084** (0.042)	-0.001 (0.051)	-0.019 (0.046)
Husband's aspiration index	0.017 (0.039)	0.062 (0.040)	0.057 (0.041)	-0.006 (0.039)	0.034 (0.035)	0.030 (0.035)	-0.019 (0.052)	0.049 (0.054)	0.032 (0.050)
R^2	0.359	0.395	0.409	0.219	0.307	0.345	0.270	0.276	0.297
First-stage F-stat	838	889.2	893.9	900.3	975.5	842.5	1011	943.7	1016
N	1284	1269	1168	1688	1606	1572	1243	1430	1426
<i>Panel C: Husbands sample</i>									
Husband's own aspiration index	0.009 (0.040)	0.011 (0.034)	-0.040 (0.052)	-0.106*** (0.041)	0.046 (0.044)	0.025 (0.042)	0.003 (0.052)	0.038 (0.050)	0.069 (0.046)
Wife's aspiration index	0.056 (0.046)	0.002 (0.039)	0.012 (0.053)	0.035 (0.039)	0.126** (0.050)	0.076 (0.055)	0.093* (0.049)	0.009 (0.048)	-0.009 (0.047)
R^2	0.338	0.363	0.349	0.262	0.296	0.336	0.283	0.273	0.286
First-stage F-stat	877.5	958.4	827.5	926.9	975.7	864.3	1229	942.9	1026
N	1308	1281	1191	1705	1609	1584	1246	1438	1435
<i>Panel D: Couples sample</i>									
	Dummies of couple's consensus								
Wife's aspiration index	0.051 (0.042)	-0.016 (0.045)	0.013 (0.042)	-0.000 (0.039)	0.107*** (0.039)	0.059 (0.051)	0.154*** (0.046)	0.014 (0.047)	0.004 (0.047)
Husband's aspiration index	0.039 (0.042)	0.056 (0.046)	0.048 (0.042)	-0.019 (0.033)	0.075** (0.034)	0.041 (0.036)	-0.046 (0.056)	0.057 (0.044)	0.067 (0.043)
R^2	0.393	0.441	0.430	0.222	0.337	0.362	0.292	0.291	0.307
First-stage F-stat	783	848.2	858.2	895.1	942.1	822.1	1076	911.2	1018
N	1229	1207	1097	1682	1579	1543	1176	1400	1401

Source: Authors' calculations based on LIKS 2016.

Notes: The universe for Panel A regressions is all individuals aged 18-54 who answered the aspirations module in LIKS 2016. The universe for Panel B, C, and D regressions is all couples (married or living together) aged 18-54 who answered the aspirations module in LIKS 2016. For panel A, B, and C, the dependent variable is a dummy variable of each question about women's involvement in household decision-making, coded 1 if women participated in making the decision. For panel D, the dependent variable is a dummy variable of couple's consensus on women's decision-making power in the household. In the married pair sub-sample, if women and men both answer that women are involved in the decision-making in one question, then the dummy for consensus of women's involvement is coded 1, missing if either (or both) is missing, and 0 the couple don't agree. Appendix Table A4 lists all questions about household decision-making. The construction of aspiration index and the instrument, as well as the controls included, is identical to Table 8. Standard errors are in parentheses and clustered at community level. *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

Effects of aspirations on each component of women's decision-making index: IV results (cont'd)

	...17 questions about women's involvement in household decisions/consensus of women's involvement							
	(10) "Lending"	(11) "Saving"	(12) "Present"	(13) "Borrowing"	(14) "Remittances"	(15) "Children"	(16) "Neighbor"	(17) "Community"
<i>Panel A: Overall sample</i>								
One's own aspiration index	0.063** (0.029)	0.078*** (0.030)	0.066** (0.031)	0.017 (0.029)	0.022 (0.032)	0.029 (0.027)	0.042* (0.024)	0.007 (0.031)
R^2	0.316	0.322	0.353	0.326	0.346	0.322	0.274	0.266
First-stage F-stat	3604	3766	3677	3604	2561	3124	3725	3685
N	5468	5624	5536	5397	3783	5240	5617	5388
<i>Panel B: Wives sub-sample</i>								
Wife's own aspiration index	0.046 (0.041)	0.065 (0.045)	0.022 (0.052)	0.028 (0.046)	0.101** (0.044)	0.032 (0.037)	0.006 (0.038)	0.008 (0.051)
Husband's aspiration index	0.064 (0.039)	0.065 (0.040)	0.087** (0.039)	0.073* (0.037)	0.039 (0.044)	-0.001 (0.040)	0.030 (0.043)	-0.028 (0.050)
R^2	0.358	0.355	0.343	0.351	0.352	0.246	0.196	0.292
First-stage F-stat	904.6	925.9	910.3	1280	1138	895.2	928.3	871
N	1669	1724	1690	1643	1121	1657	1721	1659
<i>Panel C: Husbands sample</i>								
Husband's own aspiration index	0.021 (0.045)	0.070 (0.048)	0.059 (0.048)	-0.020 (0.045)	-0.053 (0.062)	-0.015 (0.039)	0.024 (0.047)	-0.075 (0.048)
Wife's aspiration index	0.125*** (0.040)	0.051 (0.046)	0.048 (0.039)	0.103*** (0.039)	0.044 (0.046)	0.042 (0.040)	0.053 (0.046)	0.083* (0.045)
R^2	0.323	0.297	0.321	0.292	0.332	0.254	0.248	0.317
First-stage F-stat	883.2	927.5	912.3	904.3	1080	900.7	946.7	840.1
N	1673	1728	1711	1649	1123	1654	1724	1654
<i>Panel D: Couples sample</i>								
	Dummies of couple's consensus							
Wife's aspiration index	0.081** (0.041)	0.103** (0.050)	0.057 (0.049)	0.069 (0.044)	0.091** (0.041)	0.082* (0.044)	0.044 (0.049)	0.087* (0.045)
Husband's aspiration index	0.057* (0.034)	0.051 (0.043)	0.093** (0.037)	0.052 (0.040)	0.021 (0.054)	-0.004 (0.045)	0.036 (0.049)	-0.043 (0.049)
R^2	0.366	0.351	0.365	0.334	0.377	0.271	0.253	0.338
First-stage F-stat	880.2	925	904	1259	1035	891.1	939.2	816.7
N	1658	1718	1682	1620	1066	1619	1712	1625

Source: Authors' calculations based on LIKS 2016.

Notes: The universe for Panel A regressions is all individuals aged 18-54 who answered the aspirations module in LIKS 2016. The universe for Panel B, C, and D regressions is all couples (married or living together) aged 18-54 who answered the aspirations module in LIKS 2016. For panel A, B, and C, the dependent variable is a dummy variable of each question about women's involvement in household decision-making, coded 1 if women participated in making the decision. For panel D, the dependent variable is a dummy variable of couple's consensus on women's decision-making power in the household. In the married pair sub-sample, if women and men both answer that women are involved in the decision-making in one question, then the dummy for consensus of women's involvement is coded 1, missing if either (or both) is missing, and 0 the couple don't agree. Appendix Table A4 lists all questions about household decision-making. The construction of aspiration index and the instrument, as well as the controls included, is identical to Table 8. Standard errors are in parentheses and clustered at community level. *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

Table A11: Effects of aspirations on women's empowerment indices by region: IV results

	Egalitarian gender attitudes index		Women's decision-making power index	
	North (1)	South (2)	North (3)	South (4)
<i>Panel A: Overall sample</i>				
One's own aspiration index	0.188*** (0.066)	0.193*** (0.046)	0.037 (0.074)	0.053 (0.047)
R^2	0.269	0.291	0.401	0.458
First-stage F-stat	3988	2360	3126	2381
N	2555	3129	2550	3129
<i>Panel B: Wives sample</i>				
Wife's own aspiration index	0.210** (0.099)	0.074 (0.052)	-0.141 (0.123)	0.073 (0.054)
Husband's aspiration index	0.097 (0.090)	0.163*** (0.049)	0.248*** (0.089)	0.025 (0.074)
R^2	0.390	0.340	0.351	0.436
First-stage F-stat	566	654.2	572.9	654.2
N	729	1,006	729	1006
<i>Panel C: Husbands sample</i>				
Husband's own aspiration index	-0.050 (0.060)	0.154*** (0.042)	-0.073 (0.066)	-0.000 (0.077)
Wife's aspiration index	0.106 (0.072)	0.077 (0.048)	0.130 (0.086)	0.110* (0.066)
R^2	0.325	0.357	0.381	0.476
First-stage F-stat	552.8	654.2	569.3	654.2
N	728	1,006	730	1006
<i>Panel D: Couples sample</i>			Couple's consensus index	
Wife's aspiration index			-0.024 (0.105)	0.141** (0.061)
Husband's aspiration index			0.136* (0.081)	0.045 (0.071)
R^2			0.392	0.478
First-stage F-stat			576.5	654.2
N			728	1006

Source: Authors' calculations based on LIKS 2016.

Notes: North Kyrgyzstan includes Talas, Chui, Issyk-Kul, Naryn, and Bishkek. South Kyrgyzstan includes Jalal-Abad, Batken, Osh, and Osh city. The universe for each panel, construction of outcome variables, aspiration index, and the instrument, as well as the controls included, are identical to Table 8. Standard errors are in parentheses and clustered at community level. *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

Table A12: Effects of aspirations on women’s empowerment indices by level of religiosity: IV results

	Egalitarian gender attitudes index		Women’s decision-making power index	
	Not religious (1)	Religious (2)	Not religious (3)	Religious (4)
<i>Panel A: Overall sample</i>				
One’s own aspirations index	0.081* (0.041)	0.162*** (0.043)	0.003 (0.053)	0.005 (0.052)
R^2	0.308	0.230	0.473	0.439
First-stage F-stat	1562	3499	1629	3550
N	1369	4315	1368	4311
<i>Panel B: Wives sample</i>				
Wife’s own aspiration index	0.098 (0.067)	0.089 (0.055)	0.073 (0.105)	-0.027 (0.075)
Husband’s aspiration index	0.099 (0.062)	0.085* (0.051)	0.070 (0.115)	0.012 (0.069)
R^2	0.572	0.271	0.496	0.451
First-stage F-stat	203.5	719.3	209.8	720.1
N	413	1319	415	1319
<i>Panel C: Husbands sample</i>				
Husband’s own aspiration index	0.065 (0.066)	0.061 (0.046)	-0.107 (0.086)	-0.007 (0.067)
Wife’s aspiration index	0.012 (0.055)	0.056 (0.046)	0.159 (0.111)	0.084 (0.065)
R^2	0.487	0.266	0.554	0.449
First-stage F-stat	192.6	580.9	197.1	576.2
N	381	1351	384	1350
<i>Panel D: Couples sample</i>			Couple’s consensus index	
Wife’s aspiration index			0.098 (0.127)	0.060 (0.068)
Husband’s aspiration index			0.008 (0.102)	0.012 (0.057)
R^2			0.579	0.477
First-stage F-stat			209.8	720.1
N			415	1319

Source: Authors’ calculations based on LIKS 2016.

Notes: Individuals are defined as being “religious” if they considered their religion “very important” or “quite important” to their identity, and being “not religious” if they answered “not very important” or “not important at all”. The universe for each panel, construction of outcome variables, aspiration index, and the instrument, as well as the controls included, are identical to Table 8. Standard errors are in parentheses and clustered at community level. *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

Table A13: Robustness of effects of one's own aspirations on women's empowerment indices to alternative measurements of women's empowerment and aspirations: IV results

	Egalitarian gender attitudes				Women's decision-making power			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Controls added iteratively</i>								
Weight controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual-level controls		Yes	Yes	Yes		Yes	Yes	Yes
Household-level controls			Yes	Yes			Yes	Yes
Current levels of aspiration components				Yes				Yes
<i>Panel A: Indices based on first principal component</i>								
Aspiration index	0.474*** (0.112)	0.434*** (0.108)	0.458*** (0.107)	0.633*** (0.132)	0.255 (0.179)	0.350** (0.159)	0.349** (0.162)	0.369* (0.202)
R^2	0.179	0.220	0.233	0.238	0.121	0.390	0.414	0.422
First-stage F-stat	4815	4717	4739	3989	4615	4515	4554	3851
N	5700	5700	5700	5700	5427	5427	5427	5427
<i>Panel B: Aspiration index constructed excluding social status</i>								
Aspiration Index (excl. social status)	0.136*** (0.028)	0.121*** (0.027)	0.130*** (0.027)	0.200*** (0.037)	0.073** (0.035)	0.092*** (0.031)	0.092*** (0.032)	0.101** (0.041)
R^2	0.156	0.201	0.215	0.220	0.098	0.383	0.410	0.416
First-stage F-stat	3714	3613	3664	2691	3695	3577	3623	2657
N	5684	5684	5684	5684	5679	5679	5679	5679

Source: Authors' calculations based on LIKS 2016.

Notes: The universe for both panels is all individuals aged 18-54 who answered the aspirations module in LIKS 2016. For panel A, the dependent variable of column (1) to (4) is the first principal component of answers to 9 questions regarding to women's role in family and society, and the dependent variable of column (5) to (8) is the first principal component of 17 dummies regarding to women's decision-making power in the household. To make the sample comparable to our main results Table 4, we replaced all missing values in questions by the community mean. For panel B, the dependent variables are the egalitarian gender attitudes index (the average of normalized values of answers to 9 questions regarding to women's role in family and society), and the women's decision-making power index (the average of normalized values of 17 dummies of women's involvement in household decision-making). In calculating both indices, we take the mean of all non-missing normalized values. The independent variable of panel A is the aspiration index, the sum of normalized values of 5 components of aspiration, weighted by the importance of each component assigned by the respondent. The independent variable of panel B is the aspiration index excluding social status in the calculation but keeping the sum of weights of remaining 4 dimensions equal to 1. The aspiration index is instrumented by summing up the normalized values of aspiration in 5 dimensions, weighted by the community average weight in each dimension (excluding members of one's own household from the computation of community mean). The aspiration index excluding social status is instrumented in the same way but using the new weight after excluding social status. Weight controls include the quadratic polynomials for community average weight used in the construction of instrument and individual weight in each dimension, 5 dimensions for panel A but 4 for panel B. Geographic controls include the oblast fixed effects and a dummy for living in rural area. Individual-level controls include one's age, age², gender, marital status, education category, and dummies for being employed, living with parents, and living with parents-in-law. Household-level controls include the age, age², gender, marital status, ethnicity and education category of the household head. Also included are household size, the number of adult male members, and the number of adult female members. Current levels of aspiration components includes the normalized values of current household income, household assets, average education level of household members, individual security and social status. Standard errors are in parentheses and clustered at community level. *** indicates p<0.01; ** indicates p<0.05; and * indicates p<0.10.

Table A14: Robustness of effects of aspirations on women's empowerment indices to alternative measurements of women's empowerment and aspirations in the sample of married pairs: IV results

	Egalitarian gender attitudes				Women's decision-making power			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Controls added iteratively</i>								
Weight controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual-level controls		Yes	Yes	Yes		Yes	Yes	Yes
Household-level controls		Yes	Yes	Yes		Yes	Yes	Yes
Current levels of aspiration components		Yes	Yes	Yes		Yes	Yes	Yes
<i>Panel A: Indices based on first principal component, wives sample</i>								
Wife's Aspiration Index (AI)	0.443*** (0.144)	0.581*** (0.167)		0.412*** (0.160)	0.212 (0.215)	0.446* (0.238)		0.321 (0.236)
Husband's AI			0.549*** (0.147)	0.337*** (0.130)			0.414* (0.251)	0.248 (0.250)
R^2	0.257	0.308	0.310	0.312	0.187	0.416	0.417	0.417
First-stage F-stat	1560	1949	2958	933	1467	1830	2869	890.9
N	1737	1737	1737	1737	1639	1639	1639	1639
<i>Panel B: Indices based on first principal component, husbands sample</i>								
Husband's AI	0.413*** (0.133)	0.502*** (0.147)		0.332*** (0.113)	0.295 (0.181)	0.380 (0.260)		0.092 (0.257)
Wife's AI			0.496*** (0.161)	0.330** (0.136)			0.601** (0.261)	0.554** (0.270)
R^2	0.208	0.281	0.278	0.283	0.216	0.417	0.417	0.417
First-stage F-stat	3183	2958	1949	933	3108	2869	1830	890.9
N	1737	1737	1737	1737	1639	1639	1639	1639
<i>Panel C: Aspiration index constructed excluding social status, wives sample</i>								
Wife's AI (excl. social status)	0.120*** (0.036)	0.177*** (0.048)		0.111** (0.047)	0.058 (0.046)	0.100* (0.053)		0.079 (0.054)
Husband's AI (excl. social status)			0.183*** (0.044)	0.116*** (0.040)			0.084 (0.052)	0.037 (0.051)
R^2	0.255	0.299	0.303	0.304	0.186	0.421	0.422	0.422
First-stage F-stat	1424	1353	2147	448.8	1424	1348	2152	447.4
N	1732	1732	1732	1732	1734	1734	1734	1734
<i>Panel D: Aspiration index constructed excluding social status, husbands sample</i>								
Husband's AI (excl. social status)	0.132*** (0.034)	0.177*** (0.043)		0.121*** (0.033)	0.092*** (0.036)	0.089* (0.053)		-0.006 (0.050)
Wife's AI (excl. social status)			0.163*** (0.046)	0.093** (0.040)			0.155*** (0.056)	0.158*** (0.058)
R^2	0.188	0.256	0.251	0.256	0.204	0.409	0.410	0.410
First-stage F-stat	2392	2147	1353	448.8	2392	2152	1348	447.4
N	1732	1732	1732	1732	1734	1734	1734	1734

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all couples (married or living together) aged 18-54 who answered the aspirations module in LIKS 2016. The construction of women's empowerment indices and indices based on first principal component, aspiration index and aspiration index excluding social status, and the instrument is identical to Appendix Table A13. Weight controls include the quadratic polynomials for community average weight and individual weight in each dimension. 5 weights are included in panel A and B, and 4 weights are included in panel C and D. Geographic controls include the oblast fixed effects and a dummy for living in rural area. Individual-level controls include one's age, age², gender, marital status, education category, and dummies for being employed, having an arranged marriage, living with parents, and living with parents-in-law. Household-level controls include the age, age², gender, marital status, ethnicity and education category of the household head. Also included are household size, the number of adult male members, and the number of adult female members. Current levels of aspiration components includes the normalized values of current household income, household assets, average education level of household members, individual security and social status. We include weight controls, individual-level controls and current levels of aspiration components of both wife and husband. Standard errors are in parentheses and clustered at community level. *** indicates p<0.01; ** indicates p<0.05; and * indicates p<0.10.

Table A15: Robustness of effects of aspirations on couple's consensus of women's involvement in household decision-making to alternative measurements of women's empowerment and aspirations: IV results

	Consensus index of women's decision-making power				
	(1)	(2)	(3)	(4)	(5)
<i>Controls added iteratively</i>					
Weight controls	Yes	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes	Yes
Individual-level controls			Yes	Yes	Yes
Household-level controls			Yes	Yes	Yes
Current levels of aspiration components			Yes	Yes	Yes
<i>Panel A: Consensus index based on first principal component</i>					
Wife's aspiration index (AI)	0.370*		0.798***		0.606**
	(0.220)		(0.292)		(0.286)
Husband's AI		0.272		0.717***	0.394*
		(0.209)		(0.268)	(0.235)
R^2	0.274	0.275	0.485	0.485	0.486
First-stage F-stat	1184	2506	1482	1916	643.8
N	1397	1397	1397	1397	1397
<i>Panel B: Aspiration index constructed excluding social status</i>					
Wife's AI (excl. social status)	0.125***		0.194***		0.177***
	(0.046)		(0.059)		(0.059)
Husband's AI (excl. social status)		0.086**		0.137***	0.030
		(0.043)		(0.052)	(0.043)
R^2	0.227	0.226	0.438	0.437	0.438
First-stage F-stat	1424	2392	1348	2152	447.4
N	1734	1734	1734	1734	1734

Source: Authors' calculations based on LIKS 2016.

Notes: The universe is all couples (married or living together) aged 18-54 who answered the aspirations module in LIKS 2016. In panel A, the dependent variable is the first principal component of 17 dummies of couple's consensus on women's decision-making power in the household. In the married pair sub-sample, if women and men both answer that women are involved in the decision-making in one question, then the dummy for consensus of women's involvement is coded 1, missing if either (or both) is missing, and 0 the couple don't agree. To make the sample comparable to our main results in Table 6, we replaced all missing values in questions by the community mean. In panel B, the dependent variable is the consensus index of women's decision-making power, the average of normalized values of 17 dummies of couple's consensus. We take the mean of all non-missing normalized values. The construction of aspiration index and aspiration index excluding social status, and the instruments is identical to Appendix Table A13. Weight controls include the quadratic polynomials for community average weight and individual weight in each dimension. 5 weights are included in panel A, and 4 weights are included in panel B. Geographic controls include the oblast fixed effects and a dummy for living in rural area. Individual-level controls include one's age, age², gender, marital status, education categories, and dummies for being employed, having an arranged marriage, living with parents, and living with parents-in-law. Household-level controls include the age, age², gender, marital status, ethnicity and education categories of the household head. Also included are household size, the number of adult male members, and the number of adult female members. Current levels of aspiration components include the normalized values of current household income, household assets, average education level of household members, individual security and social status. We include weight controls, individual-level controls and current levels of aspiration components of both wife and husband. Standard errors are in parentheses and clustered at community level. *** indicates $p < 0.01$; ** indicates $p < 0.05$; and * indicates $p < 0.10$.

Appendix B Aspirations module of LiKS 2016

Interviewer: This module is only for respondents whose age is between 18 and 54 inclusive. Please, check age of the respondent from the front sheet. If the respondent is 55 years of more, please go to Module 7.

6.A. Aspirations levels

A.1 Monthly income

READ: “Monthly income is the amount of CASH your household earns in an average month plus the value of goods you produce and consume as a family or give away as gifts, MINUS the costs of producing them.”

I610	How many percent less or more would you like to have your household earn compared to the present level of your income?	_____ % more	1
		_____ % less	2
I611	How many percent less or more do you think your household would earn in 10 years compared to the present level of your income?	_____ % more	1
		_____ % less	2

A.2 Asset value

READ: “I would now like to ask you about the assets which your household owns. Assets are any object or item which has monetary value. Example include the value of your land, home, livestock, storage facilities, vehicles, machinery, appliances, furniture, TV, cellphone, savings accounts, etc. Could you please tell me:”

I612	How many percent less or more of asset value would you like to have compared to the present level of your assets value?	_____ % more	1
		_____ % less	2
I613	How many percent less or more of asset value do you think you’ll have in 10 years compared to the present level of your assets value?	_____ % more	1
		_____ % less	2

A.3 Social status

READ: “Having a high level of social status means that people from your community ask for advice from you in key matters. People respect you, and your opinion influences important decisions. Could you please tell me:”

		Very high (1)	High (2)	Moderate (3)	Low (4)	Very low (5)
I617	What is the level of social status you have at present?					
I618	What is the level of social status that you would like to achieve?					
I619	What is the level of social status that you think you will reach within ten years?					

A.4 Education of children in your family

READ: “Now I would like to talk to you about education. You likely have knowledge and opinions about the education of male and of female should achieve. Could you please tell me:”

I620	What is the average level of education that male members in your family currently achieve?	__ a code from the list A.4
I621	What is the average level of education that female members in your family currently achieve?	__ a code from the list A.4
I622	What is the average level of education that you would like, or hope for, male younger generation in your family to eventually achieve?	__ a code from the list A.4
I623	What is the average level of education that you would like, or hope for, female younger generation in your family to eventually achieve?	__ a code from the list A.4

Codebox A.4

0. None or preschool/ kindergarten	1. 1st grade	2. 2nd grade
3. 3rd grade (complete Primary)	4. 4th grade	5. 5th grade
6. 6th grade	7. 7th grade	8. 8th grade
9. 9th grade	10. Secondary general	11. Primary technical
12. Secondary technical	13. University (bachelor, diploma, master)	14. Candidate or doctor nauk
15. Other (please specify):_____		

A.5 Security

READ: “Having a very high level of security means that you feel extremely safe each day, without fear of violence, theft, or vandalism being committed against you. In contrast, having a very low level of security means that fear of violence, theft, or vandalism has a strongly negative impact on your life. Could you

please tell me.”

		Very high (1)	High (2)	Moderate (3)	Low (4)	Very low (5)
I624	What is the level of security you have at present?					
I625	What is the level of security that you would like to achieve?					
I626	What is the level of security that you think you will reach within ten years?					

A.6 Importance of different dimensions of aspirations

READ: “We have asked you about income, assets, social status, education of children in your family, and security. Each of these five items appears here <enumerator shows a diagram that lists the five terms, shows a picture representing each, and has a box next to the picture in which the enumerator can write the assigned point value>. Please pretend that you have 100 points and must distribute them across these five items according to how important each is to you personally. The more points you assign to an item, the more important it is to you.”

I627	Number of points for “monthly income”	_____ points out of 100
I628	Number of points for “asset value”	_____ points out of 100
I629	Number of points for “social status”	_____ points out of 100
I630	Number of points for “education of children in your family”	_____ points out of 100
I631	Number of points for “security”	_____ points out of 100

Instructions to enumerator: Before proceeding to the Section 6.B, please do a final check to ensure that the five different point values in Question A.6 sum up to 100 points.

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