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ABSTRACT

# Inter-Spousal Communication in Consanguineous Marriages: Evidence from Egypt*

This paper examines the relationship between consanguinity and frequency of communication between spouses using a nationally representative sample of young married respondents in Egypt. Using a variety of estimation techniques, the results suggest that being related to one's spouse does not influence inter-spousal communication. However, we find evidence of some marriage characteristics that are associated with inter-spousal communication. The paper presents first empirical evidence which links consanguinity and communication dynamics in the household. In terms of policy implication, communication plays a critical role in marriage as it helps maintain quality relationship between spouses and directly contributes to marital satisfaction, and hence divorce rates.

**JEL Classification:** J12, O53

**Keywords:** consanguinity, communication, marriage, Egypt, Middle East

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## Introduction

Consanguineous marriages refer to unions between individuals with blood relationship. Often, such marriages include first cousins or second cousins (Hamamy 2012; Bittles & Black 2011). Approximately 991 million people live in countries where consanguineous marriages account for 20% to over 50% of total marriages (Bittles & Black 2015). Countries that report the highest rates of consanguineous marriages are primarily located in the Middle East, North Africa and Western Asia. There is great variation in reported rates and trends of consanguinity due to regional disparity and varied methods of measurement. Analysis of time-series trends exhibits declining trends of consanguineous marriages in Jordan (Hamamy *et al.* 2005), Oman (Islam 2012), Palestine (Assaf & Khwaja 2009) and Lebanon (Khlat 1988). However, traditionally rooted belief in kin-marriages continues to be persistent in Qatar (Bener & Alali 2006), Yemen (Jurdi & Saxena 2003) and United Arab Emirates (Al-Gazali et al. 1997). Consanguinity rates in Sudan (44-49%), Saudi Arabia (25-42%), Qatar (27-35%) Jordan (19-39%), Egypt (14-24%), United Arab Emirates (20-30%), Morocco (9-10%), India (7-42%) show varying but significant values (Hamamy et al. 2011).

Marriage within family is preferred for both economic and social reasons. Economic incentives in favor of consanguineous marriages operate in two forms. Such marriages potentially help preserve family assets by preventing disintegration of family wealth (Bittles 1994; Barth 1954). Further, intra-family marriages are associated with lower financial costs due to pre-existing affiliation between the couple's families (Reddy 1988; Salem & Shah 2016). Previous studies also cite that kin marriages are prevalent in communities in which parents play a critical role in marriage decisions and such unions are believed to contribute to better compatibility between couples, avoid uncertainty about family background resulting from exogamous marriages, and afford women better treatment and authority in the married household (Dronamraju & Khan 1963; Salem & Shah 2016; Hussain 1999; Khlat et al. 1986).

The topic of consanguinity has been extensively studied in context of sociodemographic variables that are highly correlated with such marriages and the potential adverse health outcomes affecting offspring resulting from such unions. However, the literature on impact of consanguineous marriages on interpersonal spousal relationship is almost non-existent. Previous studies on the topic are limited to the examination of relation between consanguineous marriage and incidence of divorce. This paper studies the impact of consanguineous marriage on communication between spouses using a nationally representative sample of survey responses from young married couples in Egypt. We contribute to the literature in two ways. First, our research seeks to investigate if intra-family marriage affects interaction between couples. This is relevant because communication plays a critical role in marriage as it helps maintain quality relationship between spouses and directly contributes to marital satisfaction (Fincham 2004; Montgomery 1981). Second, the dataset allows to develop insight into married life dynamics of youth which make up near or over 30% of population in Middle East and North Africa (MENA) (Hassan 2016). The results are key to understanding if communication in marriage is impacted by family relation between couples, especially among related youth couples critical to the demographic character of the MENA region, where kin-marriages are highly preferred.

In terms of expectations of the direction of the relationship, being in a consanguineous marriage can have either a negative or a positive effect on the level of communication in the marriage. First, consanguineous marriages are more prevalent in conservative societies (such as tribal and close-knit communities) with low education levels and early age marriages which often marginalize independent decision making and dialogue within the household. Second, being married to one's relative, often first cousin, could play a role in taking the spouse for granted due to the high cost of a break up and hence, leading to dismissal of spousal needs. However, this rationale could also play an opposite role in nurturing a better household environment to avoid the potential of a family break up. Finally, an incentive to pursue consanguineous marriage is due to the belief that it contributes to better compatibility between couples (due to family connection and history) and affords women better treatment and authority in the married household, all of which positively affect inter-spousal communication.

This paper is organized as follows. We discuss the previous literature on consanguinity in the next section. We then discuss data and estimation techniques. We conclude with highlighting the results and policy implications.

## Literature Review

Marriage among blood relatives remains a highly prevalent feature of communities in MENA countries and certain parts of Asia. This topic has been of great interest to researchers as the custom of consanguineous unions is intricately tied to the social fabric and family dynamics of practicing communities. Previous literature on this topic abounds in

the investigation of social determinants and health impacts of such unions. Education is an important factor that influences choice of spouse. Educated individuals make informed decisions based on knowledge of adverse health impacts resulting from kin marriage. However, the literature finds that although women's education level is inversely related with consanguineous marriages, men with higher education are more likely to be partners in such unions. Country-specific studies using data from Yemen (Jurdi & Saxena 2003), Turkey (Koc 2008) and Tunisia (Kerkeni et al. 2006) all confirm this relationship. Khoury & Massad (1992) assert that highly educated males may be under intense familial pressure to marry within the family probably due to their ability to support the family financially. Consanguineous couples are also more likely to get married at an earlier age (Shami et al. 1990; Givens & Hirschman 1994). Studies analyzing data from Lebanon (Khlat 1988), Kuwait (Radovanovic & Behbejani 1999) and Saudi Arabia (Saedi-Wong et al.1989) have also found low socio-economic status as an important determinant of high incidence of consanguineous marriages. Analysis of regional characteristics provides insight into geographical variation in occurrence of such marriages. The cases of Egypt (Hafez et al. 1983), Syria (Othman & Saadat 2009), Jordan (Khoury & Massad 1992), United Arab Emirates (Al-Gazali et al. 1997), Turkey (Koc 2008) and India (Rao et al. 1972) reveal that higher rates of consanguineous marriages are often observed in rural areas. This is expected as rural areas are characterized by close-knit communities with stronger family and tribal relations, low education levels and early age of marriage (Shawky et al. 2011).

Beyond the discussion of social correlates, the literature on consanguineous marriages is also heavily focused on its effect on reproductive outcomes and offspring health. Consanguineous marriages are positively associated with higher rates of fertility, prenatal loss, neo-natal and post-neonatal deaths, abortions and stillbirths (Bittles et al. 1993; Mokhtar et al. 2001; Kerkeni et al. 2007; Pederson 2002; Tuncbilek & Koc 1994). However, there are some studies that challenge these findings. Study of data from Kuwait (Al Awadi 1989), Saudi Arabia (Al-Abdulkareen & Ballal 1998) and Lebanon (Khlat 1988) reveal no difference in reproductive wastage resulting from consanguineous and non-consanguineous unions. Evidence from Jordan reveals no impact of consanguinity on fertility (Khoury & Massad 2000). The health impacts of marriages between relatives goes beyond reproductive health. The progeny of related couples are at a higher risk of adverse health outcomes due to expression of autosomal recessive disorders. A multi-population meta–analysis conducted by Bittles & Black (2010) finds an excess death rate of 1.1% in offspring of first cousins. Children of consanguineous couples are also at a greater risk of congenital malformations and illnesses (Abdulrazzaq et al. 1997; Hamamy & Al-Hakkak 1989, Stoltenberg et al. 1997; Bener & Hussain 2006).

The literature on the determinants of consanguineous marriages, social correlates and health effects is large and rich. However, the impact of consanguineous marriage on intra-marriage dynamics is relatively under-studied. There has been some attempt to study the impact of consanguinity on survival of marriages with conflicting results. Hussien (1971) and Saadat (2015) find low divorce rates among such marriages in Egypt and Iran respectively while Mutharayappa (1993) documents high divorce rates among inter-tribal marriages in India. This research paper focuses on exploring the effect of consanguineous marriage on spousal communication. Unfortunately, the data set focuses on the youth population and hence the divorce incidence is very low (less than 1%) not allowing us to look into divorce as an outcome.

We use data from the 2009 and 2014 waves of Survey of Young People in Egypt (SYPE) as the survey asks respondents detailed questions on inter-spousal communication regarding family problems, work life, daily routine, children's future and sexual relations. The case of Egypt is suitable as incidence of consanguineous marriage is high (about 35%) (Shawky et al. 2011). Moreover, Egypt's Central Agency for Public Mobilization and Statistics (CAPMAS) reported the highest divorce rate, in over two decades, for the country in 2015, which is about 2.2 cases per 1,000 people (Egypt Independent, 2017). This points to increasing prevalence of marital conflict in the society. Further, in line with the demographic transition in MENA region, Egypt is experiencing a "youth bulge" in that over 54% of its population is under 24 years of age (LaGraffe 2012). Therefore, we hope to study one aspect of the challenges faced by young people in the traditional setting of consanguineous marriage, still contemporarily relevant in conservative Egyptian society. Interpersonal communication between partners is a critical factor in marriage as it plays a role in family planning decisions (Lasee & Becker 1997; Sharan & Valente 2002), dissolution of conflict and management of distress (Markman et al. 2010; Billings 1979), influences power dynamics between the couple (Klinetob & Smith 1996; Babcock et al. 1973), and also informs adjustment, support and emotional well-being in marriage (Pasch & Bradbury 1998; Murphy & Mendelson 1973). This study offers the first empirical inquiry into the impact of consanguinity on intra-marriage dynamics as it operates through communication between spouses. This is relevant to gain understanding if and how family relation between couples influences partner exchanges and in turn, marital quality and satisfaction.

**Data and Methodology**

*Data*

The data for this study comes from two rounds of SYPE conducted in 2009 and 2014 to generate data on a wide range of topics related to youth such as education, health, family formation, migration, employment, among others. The surveys are fielded by the Population Council, in partnership with CAPMAS. The initial sampling in 2009 consisted of 11,372 households with 20,200 young individuals in the eligible age groups of 10-29. A random selection of respondents was used to select a pool of 16,061 young people for interviews. The first round of face-to-face interviews in 2009 collected data from 15,029 young people, aged 10-29, of which 10,916 (72.6%), aged 13-35, were re-interviewed in 2014. This is a nationally representative sample that covers all governorates in Egypt, including the five frontier governorates and informal urban areas or slums.

We use a subset of data from the sample that includes information about currently married respondents. To do so, we restrict our sample set to married respondents aged 22-29 with spouse living in the household for the year 2009. This yields sample of 2,069 unique individuals and 1,714 unique households. We obtain responses for the same respondents from 2014 survey as well. Further, we pool the two waves to obtain a balanced panel data with a sample size of 4,138 individuals. The data for our independent variable, consanguinity, comes from individual responses to a question in the survey that asked the respondents if they were related to their spouses prior to marriage. The percentage of married respondents that answered affirmative to being related to their spouses is approximately 34% for 2009 and 29% for 2014. The dependent variables regarding spousal communication are drawn from answers to the following question: How often do you discuss this with your spouse- a) your plans for the future, b) problems in work/school, c) problems in daily life, d) your marital sexual relations, and e) your children's future (only in 2014). The survey records three possible answers for the above question: almost never, often, daily which are assigned values on a scale of 1-3 with higher values corresponding to higher frequency of communication. We also use a number of control variables.

Table 1. presents the descriptive statistics of the variables in our model for each wave of the survey and the pooled dataset. The data focuses on the youth in Egypt and hence the age is restricted to a range between 22 and 34. Limiting the original samples to those married and the above age range, yields a sample set with majority female respondents. As compared to 2009, the 2014 sample has a lower mean for preparatory education but higher mean for no education. There is not much difference between means for the employment variable among the sample sets. There is also noticeable decrease in the average value of second wealth quintile from 0.24 in 2009 to 0.21in 2014. Conversely, the mean value of the lowest and the highest wealth quintile is higher for 2014 than 2009. Egypt has experienced tumultuous political events between 2009 and 2014 following the Arab Spring, waves of unrest, which could explain some of the changes in the distribution of wealth.

*Methodology*

To estimate the impact of consanguinity on spousal communication, we estimate a Probit regression with the different variables of spousal communication as our dependent variable. Our dependent variable is dummy variable that takes a value of 1 for communication frequency recorded as 'often' or 'daily' and 0 for 'never'[1]. Our primary regressor is related which is an indicator variable that takes a value of 1 if the respondent has a related spouse and 0 otherwise. We also control for individual and marriage related characteristics. The individual control variables are: age, gender, urban residence and employment status, parent's education, no. of siblings, birth order, education level measured by level of education institution attended, and socio-economic status as measured by household wealth quintile. We also control for governorate of residence to account for any other systematic differences in demographics among respondents not accounted by individual characteristics. Additionally, we control for years of marriage, no. of children[2], and include dummies for whether the decision to marry was made by respondent and if the respondent and his/her spouse lived with family after marriage.

[1] The results remain the same if the dependent variable is ordinal. Those results are available upon request.
[2] This variable is only controlled for in 2014 estimates due to survey design restrictions.

The equation of interest is of the following form:

$$HC_{ijt} = \beta_0 + \beta_1 Related_{ijt} + \beta_2 X_{ijt} + \beta_3 HH_{ijt} + u_{ijt}$$

Where $HC$ refers to a dummy variable that measures inter-spousal communication

$Related$ is a dummy variable that is 1 if the respondent has a related spouse

$X$ is a vector of individual characteristics of the respondent

$HH$ is a vector of characteristics of the household

$i$ stands for individual, $j$ for household, and $t$ for time

We first estimate the above equation using Probit for 2009 and 2014 responses separately. Then, we combine the two waves using the longitudinal aspect of the data to estimate a panel data Probit. We are not concerned about reverse causality in this model because communication with spouse post-marriage is not expected to be associated with pre-marriage decision about marrying within family. However, there is still a potential issue of endogeneity due to unobservable factors that are related to both consanguineous marriages and forms of communications within those marriages. As discussed in the literature section above, kin marriages are believed to contribute to better compatibility between couples and afford women better treatment and authority in the married household, factors which might also impact communication between spouses. Poor in person social skills simultaneously drive the likelihood of marrying a relative and communication dynamics in the household. Moreover, unobservable dynamics of the tribal family (the patriarchy) to which both spouses belong could influence getting into a consanguineous marriage and also communication skills. We attempt to resolve this issue using an instrument variable approach discussed below.

It is possible that communication skills could be jointly determined with consanguineous marriages by a third variable. The literature has identified factors that are associated with consanguineous marriages which also could relate to communication behavior. For instance, income, social skills, family dynamics, and religious views affect the likelihood of being in a consanguineous marriage and also communication dynamics in the household. In principle, to deal with this issue of endogeneity we could rely on the use of instrumental variables. An ideal instrument would reflect exogenous characteristics of being in a consanguineous marriage. An example might be information about extended family members or consanguinity of parents of the respondent. Unfortunately, none of these variables are recorded in the dataset.

However, for consanguinity as a determinant of inter-spousal communication, we use agricultural land ownership as instrument. In order to do so, we restrict our sample to respondents married after 2009. This allows us to use data from 2009 survey and obtain information from the respondent's unmarried households. Our instrument variable (IV) is a dummy that takes a value of 1 if the respondent's household owned agricultural land in 2009 and 0 otherwise[3]. For this IV to be relevant, it must satisfy conditions of relevance and excludability. The use of this instrument variable is motivated by demographic determinants and economic incentives of consanguineous marriage, both of which are well documented in the literature. This IV is relevant as one of the incentives of consanguineous marriages is preservation of family wealth, thus, we expect a higher percentage of respondents in consanguineous marriages to belong to families that own agricultural land. The descriptive statistics (refer to appendix) for the sample confirms this as 33% of respondents in consanguineous marriages belong to households that own agricultural land as compared to 27% respondents with non-consanguineous marriages. Moreover, previous literature confirms that consanguineous marriages are more prevalent in rural areas, where households have higher probability of owning agricultural land. However, for the IV results to be robust, it must also satisfy the excludability condition. This essentially means that it must also be the case that agricultural land ownership must not be directly related to communication (except through its relationship with consanguinity) or any other uncontrolled factors in our equation of interest. It is possible that household wealth (directly correlated with land ownership) might impact respondent's parent's reproductive decisions. The number of siblings and birth order might directly impact the respondent's communication ability irrespective of the decision to marry a relative. We cannot test for excludability but to check for relevance, we look at the F-statistic of 1st stage OLS regression. For agricultural land ownership as a determinant of consanguinity, the *F-value* = 7.26. The full 1st stage regression results are available in the appendix. The *F-statistic* is below 10, which points to a rather weak IV. Thus, the land ownership variable is not a perfect instrument that can

[3] The results remain the same for use of acres of land owned as instrument variable.

describes exogenous variation in consanguinity. However, the diverse economic/social determinants of consanguinity and dataset restrictions prevent us from identifying better IVs. We primary use this IV to test the robustness of our result to other specifications[4].

**Results**

Descriptive statistics of the sample disaggregated by respondents with related and non-related spouses are presented in Table 2. These results help confirm the previously mentioned demographic differences between consanguineous and non-consanguineous marriages and observe selection issues in the sample. There are certain noticeably differences between respondents with related and non-related spouses. On average, a higher percentage of respondents with related spouses record advanced levels of education, particularly, secondary and university. For instance, only 6% of respondent with related spouses report having attended a university as compared to 12% of respondents in non-consanguineous marriages. The percentage of respondents employed are lower among respondents with related spouses but only for 2009. The data also supports the previous literature that finds that consanguineous marriages are associated with low socio-economic status as 17% of respondents with non-related spouses were in the highest wealth quintile in 2009 as compared to 10% of respondents with related spouses. There is also a higher percentage of respondents with related spouses in lowest wealth quintile than respondents with non-related spouses in all three sample sets. These statistics also show that a higher percentage of respondents with consanguineous marriages lived with family post-marriage as compared to respondents in non-consanguineous marriage. The descriptive data also highlights that, for all sample sets, a lower percentage of respondents with related spouses were responsible for their decision to marry.

Tables 3. 4, and 5. show the results of Probit regressions for 2009, 2014 and panel data, respectively, with four variables that measure communication regarding following topics: plans for the future, problems in work/school, problems in daily life, sexual relations, and future of kids as dependent variables. The coefficient on the primary variable of interest, related, is not statistically significant across all different dependent variables, different years, and estimations. Thus, the results suggest that being related to one's spouse does not impact communication with one's spouse. As discussed earlier, there are a number of ways by which consanguinity might inform communication between spouses. For instance, marriage to a relative might lead one to marginalize spousal needs and in turn, authority in the household which could negatively impact inter-spousal communication. However, it is also possible for the related spouses to have a better understanding due to common family relations which might improve communication between them. Therefore, the insignificance of the coefficient is hardly surprising as being in a consanguineous marriage could influence household dynamics in a negative or positive manner.

The coefficient values of other variables provide interesting insights into the factors that impact communication. The coefficient value for age of respondent is not constant across the samples. Age is negative associated with communication for 2009 sample but positively related to communication for 2014 and panel data results. Household communication about problems about work/school is positively associated with employment for all sample sets. Moreover, communication is also positively associated with higher levels of education such as, vocational school and university. This is expected as education and employment directly contribute to better communication skills. The results suggest that marriage decision made by respondent is positively associated with inter-spousal communication about plans for future, daily life and sexual relations and negatively related with communication about problems at work/school. In the context of a conservative Middle Eastern society, having the independence of decision making towards marriage is most likely correlated with unobservable variables that also influence communication dynamics in those households. Living with family after marriage has a negative impact on communication about plans for future and problems. There is some evidence of a negative relationship between number of siblings and communication about future and life with spouse from 2014 survey results. Results from 2014 and panel data also show evidence of a negative relationship between years married and communication about future and problems at work/school. Panel and 2014 sample results also show some evidence of a positive association between household wealth and communication about future, problems and life. There is no impact of residence, parents' educations, number of siblings, birth orders or years married on household on communication between

[4] We also attempt to use governorate level values of conflict intensity and fatality data as a potential instrument. This variable would ideally represent an exogenous income shock that might impact decision to marry a relative. The results remain consistent with the use of this instrument variable.

spouses across all sample sets. Table 6. shows the IV Probit results. The primary regressor, related, is not statistically significant. Consistent with ordinary Probit results, marriage decision and lived with family are the only variables that record significant relationship with future and problems at works/school.

As far as policy implications, our results shed light on some interesting dynamics of communication between spouses. These results highlight useful insights for social policymakers in Egypt, where 2017 census recorded 60.7% divorce rate in cities (Al Masry 2017). Communication between spouses is an issue of wide social importance due to its influence on marital satisfaction and quality. There are many nuances of inter-spousal communication. This interaction is further complicated in the context of consanguinity in a conservative setting. This study attempts to understand the factors that influence inter-spousal communication against this background of familial relations among married young couples in Egypt. Interestingly, we do not find any association between consanguinity and communication, reasons for which are manifold, as highlighted before. Our results reiterate the importance of education and labor force participation in informing one's communication with spouse. Moreover, we also find that independent decision making and living separately after marriage (highlighting the importance of affordable real estate for young couples) are associated with better communication between spouses. It is hard to pinpoint the exact mechanism through which such individual decision making occurs and influences spousal interaction. Nevertheless, this emphasizes the significant relation between emerging independent choice and marriage in traditional settings where collectivism and strong family ties are the defining cultural characteristics. Thus, the results are key to begin comprehending the rising issue of marital conflict in conservative countries, such as Egypt, which are amidst a fascinating phase of social and demographic flux.

## Conclusion

Marriage represents as a critical juncture of transition to adulthood for young people in the MENA region. And inter-spousal communication determines the individual's satisfaction with marriage and hence, quality of life. It is important to understand factors that influence communication in marriage as it directly impacts the well-being of married life and hence, divorce rates. Consanguinity presents an interesting topic of relevance in this context due to the present juxtaposition of traditional conservative values and contemporary modern influences on youth in societies such as Egypt. This paper uses survey responses of young married couples in Egypt to study the relationship between consanguinity and inter-spousal communication. We examine this relationship using two waves of survey in 2009 and 2014. We estimate an ordinary Probit regression with consanguinity as an independent variable and binary measure of spousal communication as dependent variable. Results suggest that being related to one's spouse is not associated with inter-spousal communication. We find a significant relationship of communication with education, independent decision to marry and living with family after marriage.

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**Table 1. Descriptive Statistics**

| *Variable* | *Description* | *Year* | *Obs.* | *Mean* | *Std. Dev.* | *Min* | *Max* |
|---|---|---|---|---|---|---|---|
| Age | Respondent's age | 2009 | 2,069 | 25.84 | 2.22 | 22 | 29 |
| | | 2014 | 2,069 | 30.85 | 2.22 | 27 | 34 |
| | | Pooled | 4,138 | 28.35 | 3.34 | 22 | 34 |
| Male | = 1 if respondent is male | 2009 | 2,069 | 0.25 | 0.43 | 0 | 1 |
| | | 2014 | 2,069 | 0.25 | 0.43 | 0 | 1 |
| | | Pooled | 4,138 | 0.25 | 0.43 | 0 | 1 |
| Primary | = 1 if highest education institution attended is primary | 2009 | 2,069 | 0.13 | 0.34 | 0 | 1 |
| | | 2014 | 2,069 | 0.12 | 0.32 | 0 | 1 |
| | | Pooled | 4,138 | 0.12 | 0.33 | 0 | 1 |
| Preparatory | = 1 if highest education institution attended is preparatory | 2009 | 2,069 | 0.13 | 0.33 | 0 | 1 |
| | | 2014 | 2,069 | 0.09 | 0.29 | 0 | 1 |
| | | Pooled | 4,138 | 0.11 | 0.31 | 0 | 1 |
| Vocational | = 1 if highest education institution attended is vocational | 2009 | 2,069 | 0.41 | 0.49 | 0 | 1 |
| | | 2014 | 2,069 | 0.40 | 0.49 | 0 | 1 |
| | | Pooled | 4,138 | 0.41 | 0.49 | 0 | 1 |
| Secondary | = 1 if highest education institution attended is secondary | 2009 | 2,069 | 0.05 | 0.22 | 0 | 1 |
| | | 2014 | 2,069 | 0.04 | 0.20 | 0 | 1 |
| | | Pooled | 4,138 | 0.04 | 0.21 | 0 | 1 |
| University | = 1 if highest education institution attended is university | 2009 | 2,069 | 0.10 | 0.30 | 0 | 1 |
| | | 2014 | 2,069 | 0.10 | 0.30 | 0 | 1 |
| | | Pooled | 4,138 | 0.10 | 0.30 | 0 | 1 |
| No education | = 1 if no education institution attended | 2009 | 2,069 | 0.18 | 0.38 | 0 | 1 |
| | | 2014 | 2,069 | 0.25 | 0.43 | 0 | 1 |
| | | Pooled | 4,138 | 0.21 | 0.41 | 0 | 1 |
| Employed | =1 if the respondent was employed during the past 7 days | 2009 | 2,069 | 0.29 | 0.45 | 0 | 1 |
| | | 2014 | 2,069 | 0.31 | 0.46 | 0 | 1 |
| | | Pooled | 4,138 | 0.30 | 0.46 | 0 | 1 |
| Urban | = 1 if residence is urban | 2009 | 2,069 | 0.24 | 0.43 | 0 | 1 |
| | | 2014 | 2,069 | 0.24 | 0.43 | 0 | 1 |
| | | Pooled | 4,138 | 0.24 | 0.43 | 0 | 1 |
| Wealth1 | = 1 if wealth quintile is lowest | 2009 | 2,069 | 0.19 | 0.39 | 0 | 1 |
| | | 2014 | 2,069 | 0.21 | 0.41 | 0 | 1 |
| | | Pooled | 4,138 | 0.20 | 0.40 | 0 | 1 |
| Wealth2 | = 1 if wealth quintile is second | 2009 | 2,069 | 0.24 | 0.43 | 0 | 1 |
| | | 2014 | 2,069 | 0.21 | 0.41 | 0 | 1 |
| | | Pooled | 4,138 | 0.22 | 0.42 | 0 | 1 |
| Wealth3 | = 1 if wealth quintile is middle | 2009 | 2,069 | 0.21 | 0.41 | 0 | 1 |
| | | 2014 | 2,069 | 0.21 | 0.41 | 0 | 1 |
| | | Pooled | 4,138 | 0.21 | 0.41 | 0 | 1 |
| Wealth4 | = 1 if wealth quintile is fourth | 2009 | 2,069 | 0.21 | 0.40 | 0 | 1 |
| | | 2014 | 2,069 | 0.19 | 0.39 | 0 | 1 |
| | | Pooled | 4,138 | 0.20 | 0.40 | 0 | 1 |
| Wealth5 | = 1 if wealth quintile is highest | 2009 | 2,069 | 0.14 | 0.35 | 0 | 1 |
| | | 2014 | 2,069 | 0.17 | 0.38 | 0 | 1 |
| | | Pooled | 4,138 | 0.16 | 0.37 | 0 | 1 |

| *Variable* | *Description* | *Year* | *Obs.* | *Mean* | *Std. Dev.* | *Min* | *Max* |
|---|---|---|---|---|---|---|---|
| Marriage decision | = 1 if decision to marry was made by respondent | 2009 | 2,069 | 0.67 | 0.47 | 0 | 1 |
| | | 2014 | 2,069 | 0.27 | 0.45 | 0 | 1 |
| | | Pooled | 4,138 | 0.47 | 0.50 | 0 | 1 |
| Years married | No. of years spent with only/last husband | 2009 | 2,069 | 5.55 | 3.28 | 0 | 17 |
| | | 2014 | 2,069 | 9.84 | 3.82 | 0 | 24 |
| | | Pooled | 4,131 | 7.70 | 4.15 | 0 | 24 |
| Lived with family | = 1 if respondent lived with family after marriage | 2009 | 2,069 | 0.33 | 0.47 | 0 | 1 |
| | | 2014 | 2,069 | 0.34 | 0.47 | 0 | 1 |
| | | Pooled | 4,138 | 0.34 | 0.47 | 0 | 1 |
| No. of children | | 2014 | 2,068 | 2.85 | 1.1 | 0 | 8 |
| Father's Education | Father's highest educational certificate | - | 2,018 | 1.98 | 1.73 | 1 | 8 |
| Mother's education | Mother's highest educational certification | - | 1,985 | 1.36 | 1.17 | 1 | 9 |
| Birth Order | Order of birth | - | 2,069 | 3.18 | 2.13 | 1 | 14 |
| No. of siblings | No. of siblings | - | 2,069 | 4.88 | 2.27 | 0 | 25 |

**Table 2. Descriptive Statistics by Consanguinity (%)**

| *Variable* | *Categories* | *2009* | | *2014* | | *Pooled* | |
|---|---|---|---|---|---|---|---|
| | | *Related* | *Not Related* | *Related* | *Not Related* | *Related* | *Not Related* |
| Gender | Male | 25 | 26 | 26 | 25 | 25 | 25 |
| Education Level | Primary | 13 | 13 | 12 | 12 | 13 | 12 |
| | Preparatory | 14 | 12 | 9 | 9 | 12 | 11 |
| | Vocational | 41 | 41 | 41 | 40 | 41 | 41 |
| | Secondary | 3 | 6 | 2 | 5 | 3 | 5 |
| | University | 7 | 12 | 6 | 12 | 6 | 12 |
| | No Education | 22 | 15 | 29 | 23 | 26 | 19 |
| Employment | Employed | 26 | 31 | 31 | 31 | 29 | 31 |
| Residence | Urban | 22 | 26 | 23 | 25 | 22 | 25 |
| Wealth Quintile | Lowest | 24 | 16 | 28 | 19 | 26 | 18 |
| | Second | 25 | 23 | 22 | 21 | 23 | 22 |
| | Middle | 22 | 22 | 20 | 21 | 21 | 21 |
| | Fourth | 18 | 22 | 18 | 20 | 18 | 21 |
| | Highest | 10 | 17 | 12 | 20 | 11 | 18 |
| Lived with family after marriage | Yes | 40 | 30 | 48 | 29 | 44 | 30 |
| Marriage decision by respondent | Yes | 63 | 68 | 22 | 30 | 44 | 48 |

**Table 3. Probit Estimates for 2009**

| | *Future* | *Problems* | *Life* | *Sexual Relations* |
|---|---|---|---|---|
| Related | -0.046 | 0.103 | -0.039 | 0.016 |
| | (0.069) | (0.072) | (0.079) | (0.070) |
| Age | -0.029* | -0.033* | -0.032 | -0.032* |
| | (0.017) | (0.019) | (0.021) | (0.018) |
| Male | 0.124 | 0.371** | -0.284* | -0.246* |
| | (0.141) | (0.146) | (0.162) | (0.144) |
| Employed | 0.254** | 0.986*** | 0.233* | 0.148 |
| | (0.122) | (0.128) | (0.142) | (0.126) |
| Primary | 0.124 | 0.173 | 0.085 | 0.108 |
| | (0.113) | (0.117) | (0.125) | (0.117) |
| Preparatory | 0.285** | 0.163 | 0.616*** | 0.306*** |
| | (0.119) | (0.119) | (0.146) | (0.119) |
| Vocational | 0.234** | 0.093 | 0.397*** | 0.265*** |
| | (0.097) | (0.101) | (0.109) | (0.101) |
| Secondary | -0.058 | 0.063 | 0.441** | 0.163 |
| | (0.163) | (0.174) | (0.193) | (0.174) |
| University | 0.365** | 0.452*** | 0.601*** | 0.295** |
| | (0.156) | (0.155) | (0.180) | (0.148) |
| Urban | 0.018 | 0.159 | 0.148 | 0.147 |
| | (0.109) | (0.108) | (0.124) | (0.108) |
| Wealth2 | 0.109 | 0.056 | 0.059 | -0.135 |
| | (0.098) | (0.099) | (0.113) | (0.103) |
| Wealth3 | 0.109 | 0.051 | 0.202* | -0.055 |
| | (0.101) | (0.105) | (0.117) | (0.105) |
| Wealth4 | 0.164 | -0.092 | 0.161 | -0.025 |
| | (0.114) | (0.117) | (0.133) | (0.119) |
| Wealth5 | -0.012 | -0.056 | 0.259 | -0.005 |
| | (0.141) | (0.143) | (0.166) | (0.143) |
| Father's education | 0.036 | 0.026 | 0.010 | -0.017 |
| | (0.025) | (0.024) | (0.029) | (0.024) |
| Mother's education | 0.030 | 0.042 | -0.024 | -0.033 |
| | (0.036) | (0.034) | (0.038) | (0.035) |
| Siblings | -0.010 | -0.018 | 0.011 | -0.026 |
| | (0.016) | (0.018) | (0.019) | (0.017) |
| Birth order | -0.014 | 0.008 | -0.002 | -0.012 |
| | (0.017) | (0.017) | (0.020) | (0.017) |
| Marriage decision | 0.315*** | -0.143** | 0.322*** | 0.472*** |
| | (0.071) | (0.072) | (0.082) | (0.074) |
| Years married | -0.001 | 0.018 | 0.035** | 0.003 |
| | (0.013) | (0.014) | (0.015) | (0.013) |
| Lived with family | -0.164** | -0.209*** | 0.013 | -0.091 |
| | (0.071) | (0.075) | (0.083) | (0.074) |
| Governorate dummies | Yes | Yes | Yes | Yes |
| Observations | 1,965 | 1,972 | 1,951 | 1,938 |

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

**Table 4. Probit Estimates for 2014**

| | *Future* | *Problems* | *Life* | *Sexual Relations* | *Future of kids* |
|---|---|---|---|---|---|
| Related | -0.123 | -0.037 | -0.095 | -0.062 | -0.011 |
| | (0.084) | (0.081) | (0.088) | (0.078) | (0.086) |
| Age | 0.042** | 0.024 | -0.003 | -0.002 | -0.007 |
| | (0.017) | (0.017) | (0.019) | (0.016) | (0.018) |
| Male | -0.098 | -0.380*** | 0.017 | 0.089 | -0.038 |
| | (0.126) | (0.131) | (0.144) | (0.122) | (0.138) |
| Employed | 0.133 | 0.366*** | -0.047 | -0.191* | 0.018 |
| | (0.114) | (0.119) | (0.127) | (0.111) | (0.125) |
| Primary | 0.031 | -0.022 | 0.508*** | 0.010 | 0.124 |
| | (0.116) | (0.111) | (0.135) | (0.110) | (0.123) |
| Preparatory | 0.133 | -0.011 | 0.170 | 0.077 | -0.062 |
| | (0.127) | (0.120) | (0.136) | (0.118) | (0.134) |
| Vocational | 0.246*** | 0.163* | 0.388*** | 0.270*** | 0.255*** |
| | (0.092) | (0.088) | (0.100) | (0.087) | (0.098) |
| Secondary | 0.162 | 0.095 | 0.423** | 0.141 | 0.141 |
| | (0.192) | (0.172) | (0.209) | (0.172) | (0.207) |
| University | 0.456** | 0.181 | 0.387* | 0.327** | 0.287 |
| | (0.180) | (0.169) | (0.200) | (0.160) | (0.179) |
| Urban | -0.085 | 0.049 | 0.042 | -0.078 | 0.080 |
| | (0.109) | (0.108) | (0.127) | (0.107) | (0.119) |
| Wealth2 | 0.097 | 0.017 | 0.013 | -0.018 | 0.101 |
| | (0.107) | (0.103) | (0.117) | (0.103) | (0.115) |
| Wealth3 | 0.385*** | 0.330*** | 0.122 | 0.143 | 0.287** |
| | (0.114) | (0.110) | (0.127) | (0.107) | (0.126) |
| Wealth4 | 0.280** | 0.137 | 0.007 | 0.086 | 0.210* |
| | (0.117) | (0.114) | (0.127) | (0.114) | (0.125) |
| Wealth5 | 0.126 | 0.181 | 0.112 | -0.014 | 0.090 |
| | (0.128) | (0.126) | (0.149) | (0.128) | (0.139) |
| Father's education | 0.011 | 0.020 | 0.005 | 0.043* | 0.064** |
| | (0.025) | (0.025) | (0.030) | (0.026) | (0.031) |
| Mother's education | -0.012 | -0.002 | 0.014 | 0.028 | -0.033 |
| | (0.039) | (0.040) | (0.047) | (0.039) | (0.045) |
| No. of siblings | -0.044** | 0.006 | -0.032* | 0.006 | -0.027 |
| | (0.017) | (0.017) | (0.019) | (0.017) | (0.018) |
| Birth order | 0.012 | -0.014 | 0.011 | 0.020 | 0.000 |
| | (0.017) | (0.017) | (0.020) | (0.017) | (0.018) |
| Marriage decision | 0.327*** | 0.175** | -0.065 | 0.138* | 0.123 |
| | (0.088) | (0.084) | (0.096) | (0.082) | (0.092) |
| Years married | -0.032*** | -0.040*** | -0.026* | -0.031*** | -0.012 |
| | (0.012) | (0.012) | (0.014) | (0.011) | (0.013) |
| Lived with family | -0.132* | -0.179** | -0.146* | -0.119 | -0.056 |
| | (0.079) | (0.076) | (0.086) | (0.074) | (0.084) |
| No. of children | -0.013 | 0.045 | 0.027 | 0.011 | 0.049 |
| | (0.038) | (0.038) | (0.042) | (0.036) | (0.043) |
| Governorate dummies | Yes | Yes | Yes | Yes | Yes |
| Observations | 1,974 | 1,974 | 1,974 | 1,974 | 1,974 |

Note: Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

**Table 5. Probit Estimates for Panel Data**

| | *Future* | *Problems* | *Life* | *Sexual Relations* |
|---|---|---|---|---|
| Related | -0.090* | 0.022 | -0.052 | -0.014 |
| | (0.052) | (0.050) | (0.057) | (0.050) |
| Age | 0.050*** | 0.098*** | 0.007 | -0.004 |
| | (0.010) | (0.010) | (0.011) | (0.009) |
| Male | 0.045 | 0.027 | -0.113 | -0.037 |
| | (0.089) | (0.096) | (0.105) | (0.090) |
| Employed | 0.159** | 0.600*** | 0.032 | -0.076 |
| | (0.079) | (0.086) | (0.091) | (0.080) |
| Primary | 0.017 | -0.021 | 0.235*** | 0.055 |
| | (0.079) | (0.076) | (0.089) | (0.078) |
| Preparatory | 0.154* | -0.032 | 0.400*** | 0.195** |
| | (0.083) | (0.078) | (0.097) | (0.080) |
| Vocational | 0.172*** | 0.032 | 0.372*** | 0.251*** |
| | (0.063) | (0.062) | (0.071) | (0.062) |
| Secondary | 0.001 | 0.014 | 0.411*** | 0.133 |
| | (0.121) | (0.116) | (0.150) | (0.117) |
| University | 0.285*** | 0.196* | 0.476*** | 0.281*** |
| | (0.109) | (0.107) | (0.130) | (0.105) |
| Urban | -0.040 | 0.048 | 0.091 | 0.033 |
| | (0.073) | (0.069) | (0.089) | (0.073) |
| Wealth2 | 0.134* | 0.048 | 0.050 | -0.042 |
| | (0.072) | (0.070) | (0.077) | (0.070) |
| Wealth3 | 0.291*** | 0.191*** | 0.199** | 0.084 |
| | (0.073) | (0.073) | (0.081) | (0.073) |
| Wealth4 | 0.273*** | 0.040 | 0.075 | 0.039 |
| | (0.080) | (0.077) | (0.087) | (0.078) |
| Wealth5 | 0.168* | 0.080 | 0.194* | 0.049 |
| | (0.090) | (0.088) | (0.103) | (0.090) |
| Father's education | 0.023 | 0.024 | 0.009 | 0.010 |
| | (0.017) | (0.016) | (0.020) | (0.017) |
| Mother's education | 0.014 | 0.029 | -0.002 | 0.001 |
| | (0.024) | (0.024) | (0.030) | (0.024) |
| No. of siblings | -0.028** | -0.010 | -0.013 | -0.009 |
| | (0.012) | (0.012) | (0.012) | (0.011) |
| Birth order | 0.001 | -0.001 | 0.006 | 0.004 |
| | (0.012) | (0.012) | (0.013) | (0.011) |
| Marriage decision | 0.189*** | -0.223*** | 0.110** | 0.259*** |
| | (0.051) | (0.049) | (0.056) | (0.049) |
| Years married | -0.018** | -0.012 | -0.001 | -0.018** |
| | (0.008) | (0.008) | (0.009) | (0.008) |
| Lived with family | -0.150*** | -0.165*** | -0.061 | -0.113** |
| | (0.051) | (0.050) | (0.057) | (0.051) |
| Governorate dummies | Yes | Yes | Yes | Yes |
| Observations | 3,947 | 3,947 | 3,947 | 3,947 |

Note: Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

**Table 6. IV Probit Results for Post-2009 Sample**

| | *Future* | *Problems* | *Life* | *Sexual Relations* | *Future of Kids* |
|---|---|---|---|---|---|
| Related | 1.825 | 1.883 | 0.895 | -2.078 | 1.346 |
| | (2.840) | (2.569) | (6.142) | (2.091) | (4.596) |
| Age | 0.017 | 0.020 | 0.003 | -0.022 | -0.005 |
| | (0.036) | (0.028) | (0.070) | (0.023) | (0.071) |
| Male | 0.030 | -0.232 | 0.101 | 0.048 | 0.134 |
| | (0.220) | (0.302) | (0.310) | (0.121) | (0.349) |
| Employed | -0.081 | 0.085 | 0.124 | 0.087 | -0.063 |
| | (0.240) | (0.489) | (0.513) | (0.208) | (0.281) |
| Primary | -0.163 | -0.186 | 0.454 | 0.195 | 0.056 |
| | (0.162) | (0.139) | (0.905) | (0.143) | (0.467) |
| Preparatory | -0.153 | -0.132 | 0.164 | 0.004 | 0.012 |
| | (0.127) | (0.128) | (0.525) | (0.287) | (0.332) |
| Secondary | 0.153 | 0.071 | 0.390 | 0.078 | 0.270 |
| | (0.329) | (0.204) | (0.505) | (0.181) | (0.426) |
| Vocational | 0.077 | 0.035 | 0.224 | 0.110 | 0.144 |
| | (0.265) | (0.188) | (0.396) | (0.136) | (0.326) |
| University | 0.072 | 0.041 | 0.386 | 0.075 | 0.208 |
| | (0.237) | (0.175) | (0.476) | (0.151) | (0.326) |
| Father's education | 0.049 | 0.058 | -0.000 | 0.012 | 0.035 |
| | (0.050) | (0.066) | (0.046) | (0.059) | (0.026) |
| Mother's education | 0.000 | -0.014 | 0.035 | 0.017 | -0.013 |
| | (0.026) | (0.036) | (0.047) | (0.042) | (0.035) |
| No. of siblings | -0.022 | -0.018 | -0.022 | 0.024 | 0.005 |
| | (0.017) | (0.020) | (0.029) | (0.016) | (0.055) |
| Birth order | 0.020 | 0.013 | 0.014 | 0.020 | 0.003 |
| | (0.022) | (0.018) | (0.025) | (0.063) | (0.030) |
| Urban | -0.021 | -0.028 | -0.229 | -0.038 | -0.166 |
| | (0.107) | (0.105) | (0.246) | (0.127) | (0.237) |
| Wealth2 | 0.168 | 0.132 | 0.077 | 0.276 | 0.187 |
| | (0.404) | (0.362) | (0.251) | (0.398) | (0.403) |
| Wealth3 | 0.234 | 0.196 | 0.066 | 0.265 | 0.263 |
| | (0.479) | (0.417) | (0.200) | (0.432) | (0.426) |
| Wealth4 | 0.268 | 0.301 | 0.126 | 0.213 | 0.247 |
| | (0.370) | (0.434) | (0.170) | (0.496) | (0.261) |
| Wealth5 | 0.269 | 0.198 | 0.051 | 0.264 | 0.246 |
| | (0.442) | (0.341) | (0.173) | (0.505) | (0.338) |
| Marriage decision | 0.332*** | 0.298*** | -0.138 | -0.117 | 0.114 |
| | (0.095) | (0.114) | (0.905) | (0.398) | (0.538) |
| Years married | -0.028 | -0.003 | -0.064 | -0.020 | 0.017 |
| | (0.070) | (0.032) | (0.083) | (0.031) | (0.030) |
| Lived with family | -0.342*** | -0.306*** | -0.357 | 0.070 | -0.305* |
| | (0.106) | (0.084) | (0.263) | (0.370) | (0.168) |
| No. of children | -0.019 | -0.033 | 0.024 | 0.011 | 0.107 |
| | (0.040) | (0.051) | (0.074) | (0.040) | (0.172) |
| Governorate dummies | Yes | Yes | Yes | Yes | Yes |
| Observations | 1,699 | 1,709 | 1,684 | 1,709 | 1,694 |

Note: Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

**Appendix**

**Table A1. 1st stage results – IV regression**

| | *Related* |
|---|---|
| Land ownership | 0.0200 |
| | (0.0244) |
| Age | -0.0105*** |
| | (0.00306) |
| Male | -0.00527 |
| | (0.0421) |
| Employed | 0.0786* |
| | (0.0430) |
| Primary | 0.0370 |
| | (0.0514) |
| Preparatory | 0.0523 |
| | (0.0451) |
| Secondary | -0.0247 |
| | (0.0472) |
| Vocational | 0.0129 |
| | (0.0346) |
| University | 0.0147 |
| | (0.0430) |
| Father's education | -0.00140 |
| | (0.00612) |
| Mother's education | -0.00752 |
| | (0.00731) |
| No. of siblings | 0.0172*** |
| | (0.00555) |
| Birth order | -0.00519 |
| | (0.00629) |
| Urban | 0.0442* |
| | (0.0255) |
| Wealth2 | -0.0120 |
| | (0.0447) |
| Wealth3 | -0.0473 |
| | (0.0436) |
| Wealth4 | -0.0968** |
| | (0.0422) |
| Wealth5 | -0.116*** |
| | (0.0427) |
| Marriage decision | -0.110*** |
| | (0.0217) |
| Years married | -0.00265 |
| | (0.00857) |
| Lived with family | 0.132*** |
| | (0.0276) |
| No. of children | -0.00528 |
| | (0.0138) |
| Observations | 1,710 |
| F – value | 7.26 |

Note: Robust standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

**Table A2. Descriptive Statistics Post-2009 Sample**

| *Variable* | *Description* | *Obs.* | *Mean* | *Std. Dev.* | *Min* | *Max* |
|---|---|---|---|---|---|---|
| Age | Respondent's age | 1,949 | 25.23 | 4.15 | 15 | 35 |
| Male | = 1 if respondent is male | 1,949 | 1,949 | 0.41 | 0 | 1 |
| Primary | = 1 if highest education institution attended is primary | 1,949 | 0.08 | 0.27 | 0 | 1 |
| Preparatory | = 1 if highest education institution attended is preparatory | 1,949 | 0.11 | 0.32 | 0 | 1 |
| Vocational | = 1 if highest education institution attended is vocational | 1,949 | 0.42 | 0.49 | 0 | 1 |
| Secondary | = 1 if highest education institution attended is secondary | 1,949 | 0.07 | 0.25 | 0 | 1 |
| University | = 1 if highest education institution attended is university | 1,949 | 0.19 | 0.40 | 0 | 1 |
| No education | = 1 if no educational institution attended | 1,949 | 0.12 | 0.33 | 0 | 1 |
| Employed | = 1 if respondent was employed during past 7 days | 1,949 | 0.41 | 0.49 | 0 | 1 |
| Urban | = 1 if residence is urban | 1,949 | 0.27 | 0.44 | 0 | 1 |
| Wealth1 | = 1 if wealth quintile is lowest | 1,949 | 0.11 | 0.32 | 0 | 1 |
| Wealth2 | = 1 if wealth quintile is second | 1,949 | 0.17 | 0.38 | 0 | 1 |
| Wealth3 | = 1 if wealth quintile is middle | 1,949 | 0.18 | 0.39 | 0 | 1 |
| Wealth4 | = 1 if wealth quintile is fourth | 1,949 | 0.23 | 0.42 | 0 | 1 |
| Wealth5 | = 1 if wealth quintile is highest | 1,949 | 0.30 | 0.46 | 0 | 1 |
| Marriage Decision | = 1 if decision to marry was made by respondent | 1,949 | 0.37 | 0.48 | 0 | 1 |
| Years married | No. of years spent with only/last husband | 1,949 | 2.01 | 1.40 | 0 | 4 |
| Lived with family | = 1 if respondent lived with family after marriage | 1,949 | 0.32 | 0.47 | 0 | 1 |
| No. of Children | No. of children | 1,949 | 1 | 0.86 | 0 | 6 |
| Father's education | Father's highest educational certificate | 1,784 | 2.53 | 2.18 | 1 | 9 |
| Mother's education | Mother's highest educational certificate | 1,722 | 1.77 | 1.72 | 1 | 9 |
| Birth order | Order of Birth | 1,949 | 3.04 | 2.15 | 1 | 14 |
| No. of siblings | Count of siblings | 1,949 | 4.75 | 2.63 | 0 | 24 |

**Table A3. Descriptive Statistics by Consanguinity for Post-2009 Sample (%)**

| *Variable* | *Categories* | *Post - 2009* | |
|---|---|---|---|
| | | Related | Not Related |
| Gender | Male | 40 | 41 |
| Education level | Primary | 10 | 7 |
| | Preparatory | 15 | 10 |
| | Vocational | 43 | 42 |
| | Secondary | 5 | 7 |
| | University | 12 | 22 |
| | No Education | 15 | 12 |
| Employment | Employed | 40 | 42 |
| Residence | Urban | 26 | 28 |
| Wealth quintile | Lowest | 16 | 10 |
| | Second | 24 | 15 |
| | Middle | 21 | 18 |
| | Fourth | 19 | 25 |
| | Highest | 20 | 31 |
| Lived with family | Yes | 46 | 28 |
| Marriage decision | Yes | 27 | 40 |
| Land ownership | Yes | 33 | 27 |