

Mother-in-law and marital relationship quality

**Is Co-residence with Mother-in-law Affecting Marital Relationship Quality in Semi-urban Assiut Egypt?**

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**Abstract:**

Co-residence with mother-in-law may have an effect on their daughter-in-law marital relationship quality. Two rounds longitudinal surveys of women residing in Waledeya, Assiut, Egypt were conducted in 2010 (N=548), and 2012 (N= 445). Currently married women aged 16 – 49 years old who had a living mother-in-law either co-residing or not were included. Finite mixture models were used in analysis. Dependent variables were trust and satisfaction scales in round 2. Mean trust scale and satisfaction scales were decreased in round 2 than in round 1 with a mean difference -0.3 and -0.8 respectively. Co-residence with mother-in-law at the same apartment increased marital trust and marital satisfaction. However, marital duration and perceived bad impact of in-laws on daughter-in-law work load decreased marital trust and marital satisfaction. Wife work decreased marital satisfaction but didn't affect marital trust. Marital trust and satisfaction decreased by marital duration. Co-residing with mother-in-law was significantly associated with marital trust and satisfaction.

Keywords: Co-residence, Egypt, marital quality, mother-in-law

## BACKGROUND

Egypt's population is aging, life expectancy increased from 69 at 2005 to 71 years at 2011 with female life expectancy of 73 years at 2011 (World Bank, 2013). In addition, the percentage of women population aged 65+ increased from 3.6% to 4.1% at the year 2000 to 2008 respectively (El-Zanaty & Way, 2008). Taking into considerations that Egyptian culture supports high rates of intergenerational co-residence, especially with the financial or disability constraints that old people face, thus more elderly people are co-residing with their children (Yount and Agree, 2005) either at the same apartment or at the same building. Older adults prefer to live with their sons (Yount, 2005) and with the increase in age, the odds of living with married children in Egypt increases versus the odds of living with unmarried children (Yount and Khadr, 2008). Considering that only 16% of Egyptian women aged 15-49 years were formally employed in the year prior to the 2008 Demographic Health Survey was done, with 13.3% in Upper Egypt (21.9% and 9.4% in urban and rural areas respectively), (El-Zanaty & Way, 2008) and the evidence that older Egyptian women tend to live with their married children than older Egyptian men do (Yount and Khadr, 2008), and that the main preference is living with sons and daughter-in-laws (Yount, 2005) thus, mother-in-laws and daughter-in-laws spend a lot of time together at home.

### Marital Relationship Quality and Mother-in-Laws

The social environment in which the couples live affects their marital life (Bryant & Conger, 1999, Bryant et al., 2001). The in-laws, in particular, could have a tremendous effect on the marital relationship quality (Allendorf, 2010; Bryant et al., 2001; Silverstein, 1990; Timmer & Veroff, 2000). Some studies addressed the role of mother-in-law in the decision making process within the household (Pettigrew, 1986; Saini et al., 1992). The level of conflict between couples and their in-laws affect the couple marital happiness especially in early marriages (Timmer & Veroff, 2000). Moreover, the

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relationship with the in-laws may not only affect the marital relationship between the couples in the early years of marriage but may extend far beyond to the later years of marriage. Among those who were married for an average of 19 years, having discord with the in-laws would predict couples' perception of marital satisfaction, stability and commitment especially among wives and mother-in-laws (Bryant et al., 2001). In addition, too much contact with in-laws may have a negative effect on marital intimacy (Nag and Duza, 1988) and marital stability especially if the parents were disapproving about the choice of their son to his spouse (Booth & Edwards, 1992).

Some studies suggested that tension with mother-in-laws increased after the birth of a child in the family because of the shared attachment to that child (Silverstein, 1990). On the other hand, family pressures over wife who has no children especially husbands' family, this may further cause marital dissatisfaction (WHO, 2010). Wives with a diagnosed female infertility experienced higher distress in self-esteem and less satisfaction on acceptance by in-laws than wives experiencing a diagnosed male infertility (Lee et al., 2001).

### Marital Duration

Duration of marriage can affect marital quality through many ways, it can affect marital happiness and satisfaction. Longitudinal data showed that marital duration had a negative impact on marital happiness (Johnson et al., 1992; VanLaningham et al., 2000). Marital satisfaction also decrease by longer duration but this could be attributed to the age of the male partner i.e. the older the male partner, the more sexual dysfunction encountered which may lead to female sexual dysfunction and could be reflected on marital satisfaction (Ibrahim et al., 2013). The association has been found to be greater for younger than for older women and stronger in European and North American countries, but also present to some degree in Asian and less developed countries (Rosen and Bachmann, 2008).

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### Other Determinants of Marital Relationship Quality

Literatures indicated many other factors affecting marital relationship quality; age at first marriage, spouses' education, income, work status, women autonomy, family factors and community factors.

**Age at first marriage:** Association between age at first marriage and marital stability was reported in a number of studies (Booth and Edwards, 1985; Lehrer, 2008; South and Spitze, 1986; Trent and South, 1989). In Egypt, the median age at marriage among women aged 25 – 49 years is 20.6 years. It is highest among those with secondary education or at the highest wealth quintile. In Upper Egypt, it is 19.4 (21.7, 18.3 in urban & rural Upper Egypt respectively) (El-Zanaty and Way, 2009). In a cross-societal study that involved 66 countries, it was found that divorce rates are less common among women married at older ages than among young married women (Trent and South, 1989) as those women who marry at younger ages may be less mature to make the right decision in choosing the right husband or may lack the skills of dealing with the different marital obligations which may lead to marital dissatisfaction and hence increase the risk of marriage instability (Booth and Edwards, 1985; South and Spitze, 1986). While for those who marry late, the risk of marriage instability is less common as the maturity effect would counteract the low quality matches (Lehrer, 2008) especially after the first 7 years of marriage (Booth and Edwards, 1985).

**Education:** Literatures indicated that education could act both ways; as a predictor for marital satisfaction (Brotherson and Duncan; Shamai and Lev, 1999; Shifflett & Cummings, 1999) and as a predictor for marital instability (Lehrer, 2008) or divorce (South and Spitze, 1986). More educated persons are more likely to report marital satisfaction (Brotherson and Duncan; Shifflett and Cummings, 1999). In a US national representative sample, it was found that marital instability is less common when the husband have a college education (Lehrer, 2008). More educated women may have more insight and rational life approach which may lead to better marital quality especially at early marital durations

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(South and Spitze, 1986). On the other hand, education could act as a predictor for divorce in later marriage durations especially after the children had grown up where they no longer represent a barrier for marital dissolution (South and Spitze, 1986). Difference in the educational levels among couples also, proved to have an effect on marital life; women with higher educational level than their husbands were more likely to encounter marital conflict as they demanded more equality and mutual love which was reflected on their husbands' dissatisfaction (Burk & Wier, 1976). This also could be true if the husband has a higher educational level than his wife as the partner with higher education then, thinks that he/she is capable of establishing an independent household (Kalmijn & Poortman, 2006).

Work: Like the dual effect education has on marital relationship quality, the same could be mentioned concerning employment. The literatures focused mainly on wives' employment and its impact on the marital relationship quality. For example, in some developed countries, women labor force participation and increased number of wife working hours was found to be one of the factors affecting marital happiness and marital interaction (Amato et al., 2003). A small positive association was reported by Simpson and England (1982); employed wives expressed better psychological health than housewives (Kessler and MacRae, 1982; Northcott, 1980). However, other studies addressed wife employment as a marital tension (Amato et al., 2003) or divorce determinant, (Kalmijn & Poortman, 2006) as working women have more autonomy, more independence (Trent & South, 1989) financially and psychologically and more self-esteem (Kalmijn and Poortman, 2006) and thus capable of seeking divorce. Although researches in the west have resulted in various findings, however, one Iranian study showed that employment bears a strong relationship with the general satisfaction but not with marital satisfaction of Iranian women (Kousha and Mohseni, 1997). In Egypt, in a study that analyzed determinants of happiness and satisfaction at the Egyptian society, it was found that women, who were housewives, were happier and more satisfied with their lives than employed women (Hussien and Heshmat, 2010).

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Because of the relationship between employment and income, it is noteworthy to mention that although high income was reported as a predictor for satisfying relationships and marital satisfaction (Amato et al., 2003; Brotherson and Duncan; Ooms and Wilson, 2004; Shifflett and Cummings, 1999), but other studies showed that women economic independence may increase the risk of marital violence (Hussain and Khan, 2008) and divorce (Kalmijn and Poortman, 2006).

**Women autonomy:** A considerable amount of literatures studied the effect of women autonomy on marital relationship quality. It was noted that marital satisfaction increases most when wives feel that their opinions and decisions are valued in the family (Orgill and Heaton, 2005) and there is equality in the decision making process (Amato et al., 2003). This could be achieved through husbands' expressions of appreciation, listening sympathetically to their wives and mutual decision making (Hawkins et al., 1998; Hattar-Pollara et al., 2000). However, respect and being acknowledged as a human being are far more important to wives than the sense of autonomy and equality (Orgill and Heaton, 2005). Moreover, spouse's agreement about things related to their marital life determines the marriage stability either among the early or late married women (Booth and Edwards, 1985).

**Having children:** Having children was among the most significant predictors of wife marital satisfaction (Hattar-Pollara et al., 2000) and marital stability (Kalmijn and Poortman, 2006). Infertile women are less satisfied with their marital life, quality of life (Amanelahifard et al., 2012) or sexual life (Lee et al., 2001) than fertile women. The presence of children may convince the couple to think twice concerning the divorce decision because of the expected financial and social costs that may follow the divorce decision and would affect the wife and the husband respectively (Kalmijn and Poortman, 2006). However, other earlier studies indicated that having children would cause distress, anxiety and depression (McLanahan and Adams, 1989) which subsequently decreases marital happiness (Glen and McLanahan, 1982) and marital quality (Cowan and Cowan, 1992).

### The Present Study

Quality of marital life is marked by marital success in terms of satisfaction, stability and commitment (Bryant et al., 2001) or marital happiness and couple interaction (Amato et al., 2003). Many literatures studied the marital relationship quality particularly in the Western communities taken into consideration how the marital relationship quality changes over the marital life course. However, few studies conducted in other places, focused mainly on the role of mother-in-law in the decision making process in the household. But, up to the authors' knowledge, there is no published study that explores the impact of co-residence with mother-in-law on marital relationship quality in the Egyptian context. However, it is noteworthy to mention that there was a study that was conducted in Egypt focusing on happiness & satisfaction with life in general (Hussien and Heshmat, 2010). In our study, we hypothesize that women who live with their mother-in-law would be less likely to have good quality marital relationship. We were concerned with the following research questions: What happens to marital trust and marital satisfaction over time? Does mother-in-law co-residence affect marital relationship quality? What are the determinants of marital trust and marital satisfaction?

### **METHOD**

#### Study Population and Area

This study is part of the Family Health & Wealth Study (FHWS) which a multi country study conducted in 8 countries (Egypt, Ethiopia, Nigeria, Uganda, Ghana, Malawi, China and India) to assess the effect of child bearing patterns on the family health & wealth outcomes. But, it is noteworthy to mention that Egypt FHWS is a bit different from other countries studies as we interviewed Mothers-in-law and we had a time diary component, however, the Egyptian version lacked the husbands' interview part. We used a longitudinal survey of 548 daughter-in-laws with 250 mother-in-laws residing in a semi-urban area (Middle Waledeya) in Assiut (Upper Egypt Governorate) 2010 and the study sample was followed

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with another survey in 2012. Waledeya is one of the administrative areas in Assiut district, formed of three main areas, one urban and 2 semi-urban area; Middle Waledeya, which is one of the 2 semi-urban areas, was chosen as our study site due to its accessibility. The total population of middle Waledeya = 24,023 population (13,122 males and 10,901 females) with 5,663 households.

### Instruments and Data Collection

The study used 5 questionnaires; household roster, focal woman questionnaire, senior woman questionnaire, time diary for focal woman and time diary for senior woman. A) The household roster included data about the household occupants, their relation to the household head, age, gender, education, primary and secondary occupation and eligibility criteria for women to be included in the study. B) Focal woman questionnaire directed to daughter-in-law included questions about background characteristics, childbearing history, fertility preferences, contraceptive use, gender norms, decision making autonomy, two dimensions about marital relationship quality namely trust and satisfaction, family assets and self-reported health. C) Senior woman questionnaire directed to mother-in-law included questions about background characteristics, attitudes toward co-residence, care given to grandchildren, disability measurements and received help from caregivers. D) Time diary for focal and senior women included questions about main activities done during the 24 hours a day, additional activities, place and persons shared those activities with.

In 2010, a complete listing & enumeration of the household members in the study area was carried out. Recruitment and training of a team of 8 interviewers with 2 field supervisors and data editors was done prior to data collection in round 1 and round 2. A pilot study was conducted to test the questionnaires. A household roster was performed. Following the household roster, an interview was conducted with eligible women as well as with their mother-in-laws. Eligibility criteria included: each currently married

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woman aged 16 – 49 years old (at the time of the survey) and who had a living mother-in-law either co-residing at the same apartment or at the same building, provided that consents of both daughter-in-law and mother-in-law were obtained. If any of them didn't consent she would not be included. The first survey was in 2010, followed by another wave in 2012 where 445 women were resurveyed (81.2% follow up rate). Co-residence was defined as strict co-residence if the mother-in-law was living in the same apartment with her daughter-in-law, and quasi co-residence if she was living in the same building. The same steps were carried out in 2012 for round 2. A quality control was carried out for a subsample of households and participants in round 1 and round 2. Double data entry and cleaning were performed using SPSS version 16.0 then data were analyzed using STATA version 12. Ethical approval for the study was obtained for round 1 and 2 from both institutional review board of Faculty of Medicine, Assiut University, Egypt and from Johns Hopkins School of Public Health.

### Dependent variables

Dependent variables were trust scale & satisfaction scale in round 1 & 2. Trust was derived from the Larzelere's Trust Scale and satisfaction scale was derived from the Spanier's Satisfaction Scale. Trust scale included 8 questions (My husband is primarily interested in his own welfare, There are times when my husband cannot be trusted, My husband is perfectly honest and truthful with me, I feel I can trust my husband completely, My husband is truly sincere in his promises, I feel that my husband does not show me enough consideration, My husband treats me fairly and justly and I feel that my husband can be counted on to help me) and was measured on a scale from 1-7 (1=Strongly disagree, 2= disagree, 3= mildly disagree, 4= neither agree or disagree, 5=mildly agree, 6= agree, 7=strongly agree). Satisfaction scale included 7 questions (How often do you discuss or have you considered divorce, separation or terminating your relationship?, How often do you discuss or have you considered divorce, separation or terminating your relationship?, In general, how often do you think that things between you and your

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husband are going well?, Do you confide in your husband?, Do you ever regret that you married?, How often do you and your husband quarrel? and How often do you and your husband get on each other's nerves?) and it was measured on a scale from 1-6 (1=never, 2=rarely, 3=occasionally, 4=more often than not, 5=most of the time and 6=all of the time). Both trust and satisfaction scales were estimated using factor analysis following loadings of the first component of a principal component analysis for both round 1 and round 2. All 8 factors of trust and 7 factors of satisfaction loaded highly on a single factor, reliability via Cronbach's alpha was acceptable (alpha= 0.85 for each scale in round 1 and 0.82 for trust and 0.79 for satisfaction in round 2). In addition, differences in the trust scale and satisfaction scale between round 1 and 2 were also calculated.

#### Independent variables

Main independent variable was marital duration. It was used as a continuous variable Co-residence with mother-in-law was another priority covariate. The co-residence variable was coded in a multiple different ways. Once as a "strict co-residence" in which the mother-in-law is living at the same apartment with the daughter-in-law and "quasi co-residence"; in which the mother-in-law is living at the same building with the daughter-in-law. In addition, we ran the analysis with another main independent variable "living with more than one daughter-in-law"; in which we separated between mother-in-law who lives with one daughter-in-law and mother-in-law who lives with more than one daughter-in-law but this was not shown in the tables (results are available upon request). Other independent variables included: age of the respondent at first marriage, respondent attained number of educational years, difference in educational years between couple, respondent work status, husband work status, number of living children, gender of alive kids, perception of the respondent about the impact of her in-laws on her work load and household wealth quintile. The household wealth quintile was calculated based on a wealth score which was derived from estimated loadings of the first component of a principal

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component analysis that included measures for assets owned by the household (We followed Filmer and Pritchett, 1999 procedure to derive the wealth score). All the previous independent variables were included in the regression models either for trust or satisfaction.

#### Univariate, Bivariate and Multivariate analysis

Frequency distributions for the outcomes and covariates were examined. Bivariate analysis was done to examine significant differences between those participants who were married for <15 years and those who were married for 15 or more years in round 1 and 2. Also, bivariate analysis was done to examine significant differences and between those who were missing in round 2 compared to round 1. P-values are computed for  $X^2$  and t-tests. For regression analysis, finite mixture models were used because the distribution of each marital quality score was skewed with a long left tail. Attempts to log transform the data did not yield an adequate fit, but a mixture of two normal distributions did. For the multivariate analysis, multiple regression models were fitted both unadjusted and adjusted. In unadjusted models, the key independent variables were used one at a time; marital duration, strict co-residence, quasi co-residence and living with more than one daughter-in-law. In adjusted models, all other covariates were added to the model.

To test for the different possibilities of how co-residence with mother-in-law predicts the trust and satisfaction among couples, we used 4 approaches. First, we predicted the determinants of trust and satisfaction in round 1 and round 2 separately, where the outcomes and covariates belong to the same round i.e. regress the outcome in round 1 on the covariates of round 1 and the outcome in round 2 on the covariates of round 2 (results are available on request). Second, we were interested in using the privilege of having a longitudinal data so we regressed the outcomes in round 2 on the covariates in round 1. Third, we predicted the determinants of the difference in marital trust and satisfaction scales between

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round 1 and 2. Fourth, we predicted the determinants of marital trust and satisfaction in all rounds by pooling the data from both survey years.

## FINDINGS

Among a total sample of 548 currently married women participated in the first round in 2010, 75.9% (n=416) were married for less than 15 years compared to 66.1% (n=294) with a total population of 445 in the second round in 2012. Demographic characteristics of the study participants at the first round are presented in Table 1. By comparing women who were married for less than 15 years to women who were married for 15 or more years, women who were married for less than 15 years tend to be younger (mean age  $\pm$  SD = 28.7  $\pm$  5.6 years) compared to (mean age  $\pm$  SD = 40.3  $\pm$  4.5 years) among women who were married for 15 or more years (P<0.001), more educated (70.4% of those who were married for < 15 years completed their secondary or technical education compared to 56.2% of those who were married for 15+ years, P<0.01), more likely to be married at age 25 years or more (19.7% versus 8.4% among the younger and the older group respectively; P<0.001), more likely to have less than 3 alive kids at the time of the survey (69.5% married for <15 years versus 10.6% married for 15+ years; P<0.001), less modern contraceptive users (53.6% versus 67.4%; P<0.01) and less likely to have a history of abortion (28.4% versus 51.5%, P<0.001). However, both groups didn't differ significantly concerning the labor force participation where women who were married <15 years less participated in the labor force in the last 3 months before the survey (26.9% married for <15 years versus 32.6% married for 15+), or the husband work status or the wealth status although women who were married <15 years were more wealthier.

The majority of the study participants rates their health as "average, bad or very bad", however, this perception was higher among those who were married <15 years (P<0.001). Nearly two thirds of the participants were afraid of disagreeing with the husband or any other male family member (64.7%

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married for <15 years versus 69.7% married for 15+ years) with no statistical significant difference. However, a considerable percentage of the participants reported that they ever discussed the desired number of children with the husband (73.6% married for <15 years versus 59.5% married for 15+ years,  $P<0.01$ ) and less than one fifth of them reported that their husbands wanted more children than the wives want. Also, it is noteworthy to mention that women who were married for < 15 years were more likely to be co-residing with their mother-in-law at the same building ( $P<0.05$ ). However, those who were married for 15+ years were more likely to report that their in-laws increased their duties or work load (14.4% ) compared to those who were married for <15 years (9.6%) although the difference was not statistically significant.

The mean trust scale and satisfaction scale were decreased in round 2 compared to round 1 with a mean difference - 0.3 and - 0.87 respectively (not shown in the tables). However, the mean trust scale was higher for those who were married for <15 years ( $19.3 \pm 8.7$ ) than for those who were married for 15+ years ( $16.4 \pm 9.1$ ) in round 1 and in round 2 as well ( $19.3 \pm 8.9$  among those who were married for <15 years versus  $16.4 \pm 9.9$  among those who were married for 15+ years). The same finding was observed with the mean satisfaction scale as well, which was higher among those who were married for <15 years ( $1.1 \pm 5.1$  in round 1 and  $0.24 \pm 4.6$  in round 2) than among those who were married for 15+ years ( $-0.56 \pm 5.6$  in round 1 versus  $-0.89 \pm 5.6$  in round 2) as shown in Table 2.

Finite mixture model results showed that marital duration has an impact on the marital trust and satisfaction, where marital trust and marital satisfaction were decreased by longer marital duration (model 1, tables 3 & 4), however, this effect was not statistically significant when we added having discussion with the husband about the desired number of children variable to the model (model 2, tables 3 & 4) or if the husband wants more children than the wife variable (model 3, tables 3 & 4). However, co-residing with mother-in-law at the same apartment had a positive impact on both the trust and

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satisfaction among couples. As for trust models, this effect was more apparent with statistical significant difference among women of component 1 (Table, 3), while for satisfaction, it was among women of component 2 (Table, 4). This suggests that strict co-residence with mother-in-law increases marital trust among women who scored less on the trust score and increases marital satisfaction among women who scored high on the satisfaction scale. Daughter-in-laws perception that their in-laws decreasing wife work load and duties was the strongest determinants of marital trust and satisfaction. Women who perceived that their in-laws increased their workloads were more likely to report less trust and less satisfaction with their marital life than other women (Tables 3 & 4). However, for marital trust models, this effect was more apparent among both components of the finite mixture models, while for satisfaction models, this effect was only observed among women in the higher arm (component 2) with a statistical significant difference. Co-residing with mother-in-law at the same building (quasi mother-in-law) had a positive association with marital trust in both components arms although it was not statistically significant. On the other hand, co-residing with mother-in-law at the same building (quasi mother-in-law) had a negative association with marital satisfaction in component 1 and a positive association with component 2. Wife work had a negative effect on marital satisfaction especially among women who were highly satisfied with a statistical significant difference (Table, 4). Having male children only had a negative impact on trust and satisfaction among women who less trust and more satisfaction respectively. On the contrary, having a discussion with the husband about the desired number of children had a positive impact on both marital trust & satisfaction. While, having the husband wants more children than the wife had a negative impact on marital trust and satisfaction among the less trusty women and the highly satisfied women respectively with a statistical significant difference.

Other control variables included: wife years of education, difference in couple educational level, husband work status and number of alive children (Table 3, 4).

## DISCUSSION AND CONCLUSION

Our results showed a decrease in the overall marital trust and satisfaction over time. Moreover, marital trust and satisfaction were lower for those who were married for  $\geq 15$  years than for those who were married for  $< 15$  years. According to the multivariate analysis, marital duration was negatively associated with trust and satisfaction when controlling for other factors. What makes marital quality decrease with longer marriage duration in this particular population in Egypt? Well, this could be attributed to some factors; 1- Getting older and having large number of children especially among working women increase woman's responsibilities outside and inside her house. having children would cause distress, anxiety and depression (McLanahan and Adams, 1989) which subsequently decreases marital happiness (Glen and McLanahan, 1982). 2- Increase in age would affect the physical and sexual health which later could be reflected on the quality of the marital relationship. It is obvious that those who are in longer marriages are older than those who are in recent marriages, the mean age for those who were married for  $< 15$  years was 28.7 years compared to 40.3 years among those who were married for  $\geq 15$  years. As for physical health, some studies found an adverse effect of ill health on marital relationship where ill health is associated with decrease ability to work and hence decrease household income and decrease ability in sharing in household chores and family activities which then would affect marital relationship (Booth and Johnson, 1994). Moreover, other studies indicated that male sexual dysfunction in older age may lead to female sexual dysfunction and hence affect marital satisfaction (Ibrahim et al., 2013). 3-Marital satisfaction is associated with the frequency and quality of marital sex which has a negative association with marital duration (Liu, 2003). However, the questions that comprise our satisfaction scale do not address marital sex neither frequency nor quality.

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In contrary to our expectation and to other studies, living with mother-in-law at the same apartment seems to have a positive association with marital trust & satisfaction. Other studies indicated that the relationship between couples and their in-laws affect the couple marital happiness in early marriages (Timmer & Veroff, 2000) and in late marriages (Bryant et al., 2001) as well. However, in our study, it was also found that women who perceive that their in-laws increase their work load had lower marital trust and satisfaction compared to women who perceive that their in-laws decrease their workloads. Thus, living with mother-in-law would improve the marital trust and satisfaction if the mother-in-law help in raising the children or taking care of them while the daughter-in-law is working or helping in other household tasks.

Another variable that showed negative association with marital satisfaction but not marital trust was wife work status. This is in accordance with other studies (Amato et al., 2003) where long wife working hours may create marriage tension among couples as some husbands may feel that their wives do not give them enough time or do not spend more time at home which creates a state of dissatisfaction. Another possible reason is that the wife who has to work will have less energy doing other household tasks which may affect her willingness to meet her husbands' sexual needs. Refusal to have sex was found to be one of the factors associated with marital violence (Hussain and Khan, 2008), which may be reflected on marital quality.

Living with MIL may have an impact on the marital trust & satisfaction between couples. Marital trust & satisfaction decreases by marital duration.

**TABLES**

Table (1): Demographic characteristics of the study participants at the first round, 2010

Variables	Description	Marital duration < 15 years (n=416)		Marital duration 15+ (n=132)	
		%	M ± SD	%	M ± SD
		Age group***	0=< 25 years	24.5	28.7 ± 5.6
	1=25 – 34 years	59.4		11.4	
	2=35 – 44 years	15.1		65.9	
	3=45+ years	0.96		22.7	
Wife educational level**	0=Didn't complete primary	4.8		15.2	
	1=Completed primary or preparatory	11.7		16.2	
	2=Completed secondary or technical	70.4		56.2	
	3=Completed University or above	13.1		12.4	
Husband educational level***	0=Didn't complete primary	5.5		18.8	
	1=Completed primary or preparatory	13.9		18.8	

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	2=Completed secondary or technical	69.6	54.7
	3=Completed University or above	10.9	7.7
Wife work status	0=Not working	73.1	67.4
	1=Working	26.9	32.6
Husband work status	0=Not working	1.2	3.03
	1=Working	98.8	96.9
Wealth quintile	0=Poorest	17.5	28.1
	1=Less poor	21.4	19.7
	2=Middle	19.5	17.4
	3=Less rich	21.8	18.2
	4=Richest	19.7	16.7
Wife age at marriage***	1=< 18 years	8.2	19.1
	2=18 – 24 years	72.1	72.5
	3= 25+ years	19.7	8.4
Number of alive kids***	0=< 3 kids	69.5	10.6
	1= 3+ kids	30.5	89.4
Contraceptive use**	0=Non user	46.4	32.6
	1= User	53.6	67.4
History of abortion***	0= No	71.6	48.5
	1=Yes	28.4	51.5
Wife perception about	0=Very good/good	8.6	27.3

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their health***	1=average/bad/very bad	91.4	72.7
Wife afraid of disagreeing with husband or any male in the family	0=No 1=Yes	35.3 64.7	30.3 69.7
Wife ever discussed desired number of children with husband**	0=No 1=Yes	26.4 73.6	40.5 59.5
Wife perception about whether husband wants more children than his wife	0=Others 1=Wants more	82.9 17.1	79.4 20.6
Living with mother-in-law at the same building*	0=No 1=Yes	49.1 50.9	61.4 38.6
Wife perception about the impact of in-laws on her duties/workload	0=Others 1= Increase my workload	90.4 9.6	85.6 14.4

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\*P value <0.05 \*\*P value < 0.01 \*\*\* P value < 0.001

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Table 2: Mean and SD of relationship quality scales in round 1 &amp; round 2

Variables	Marital duration < 15 years		Marital duration 15+	
	R1	R2	R1	R2
	(n=416)	(n=294)	(n=132)	(n=151)
Trust Scale (M ± SD)	19.3 ± 8.7	19.3 ± 8.9	16.4 ± 9.1	16.4 ± 9.9
Satisfaction Scale (M ± SD)	1.1 ± 5.1	0.24 ± 4.6	- 0.56 ± 5.6	-0.89 ± 5.6

## Mother-in-law and marital relationship quality

Table 3: Determinants of marital trust

Covariates	Description	Model 1		Model 2		Model 3	
		Comp.-1	Comp.-2	Comp.-1	Comp.-2	Comp.-1	Comp.-2
Marital duration		-0.212 [-1.607]	-0.058 [-1.462]	<b>-0.304*</b> [-1.790]	-0.016 [-0.304]	<b>-0.330**</b> [-2.045]	-0.011 [-0.211]
Strict MIL	0=Others 1=Living at same apartment with MIL	<b>6.844**</b> [2.254]	1.009 [1.170]	<b>6.950**</b> [2.347]	0.947 [1.044]	<b>6.436**</b> [2.239]	0.971 [1.057]
Quasi MIL	0=Others 1=Living at same building with MIL	2.574 [1.238]	0.209 [0.399]	2.651 [1.313]	0.143 [0.270]	2.281 [1.174]	0.177 [0.332]
Age at marriage		0.025 [0.081]	0.043 [0.615]	0.031 [0.101]	0.038 [0.555]	-0.031 [-0.109]	0.037 [0.547]
Wife years of education		0.277 [1.349]	0.089 [1.623]	0.287 [1.391]	0.088 [1.610]	0.304 [1.611]	0.082 [1.451]
Couple difference in educational years	0=Others 1= Husband had higher number of educational years	-0.663 [-0.305]	-0.455 [-0.812]	-0.873 [-0.397]	-0.454 [-0.807]	-0.364 [-0.175]	-0.416 [-0.738]
Wife work	0=Not working 1=Working	-2.353 [-0.960]	-0.162 [-0.228]	-2.324 [-0.995]	-0.119 [-0.165]	-3.096 [-1.434]	0.010 [0.014]
Husband work	0=Not working 1=Working	7.729 [0.883]	1.209 [0.566]	6.799 [0.700]	1.146 [0.521]	3.968 [0.486]	0.883 [0.371]
Wealth quint		-0.183 [-0.351]	0.146 [0.852]	-0.168 [-0.332]	0.155 [0.892]	-0.166 [-0.347]	0.174 [0.977]
Impact of in-laws	0=Others 1= In-laws increase my workload	<b>-13.01***</b> [-5.856]	<b>-3.205***</b> [-2.601]	<b>-13.28***</b> [-5.859]	<b>-3.085**</b> [-2.393]	<b>-12.52***</b> [-5.122]	<b>-2.974**</b> [-2.105]
Number of alive kids	0=< 3 kids 1= Having 3+ kids			2.130 [0.801]	-0.918 [-1.319]	0.591 [0.210]	-0.719 [-1.030]
Male children only	0=No 1=Yes					<b>-4.473*</b> [-1.747]	0.961 [1.515]
Constant		1.849 [0.189]	<b>19.07***</b> [6.736]	0.686 [0.072]	<b>20.17***</b> [6.608]	8.864 [1.048]	<b>19.92***</b> [6.320]
Observations		961	961	961	961	961	961
chi2		78.16	78.16	81.63	81.63	90.43	90.43
ll		-3330	-3330	-3329	-3329	-3325	-3325
df_m		20	20	22	22	24	24
pi1_est		0.237	0.237	0.247	0.247	0.263	0.263

\*p &lt;0.1, \*\* p&lt;0.05, \*\*\* p&lt;0.01

## Mother-in-law and marital relationship quality

Table 4: Determinants of marital satisfaction

Covariates	Description	Model 1		Model 2		Model 3	
		Comp.-1	Comp.-2	Comp.-1	Comp.-2	Comp.-1	Comp.-2
Marital duration		<b>-0.061***</b>	-0.096	<b>-0.063**</b>	-0.085	<b>-0.055*</b>	-0.089
		[-2.761]	[-1.583]	[-1.974]	[-0.961]	[-1.702]	[-1.070]
Strict MIL	0=Others	-0.028	<b>3.019**</b>	-0.032	<b>3.003**</b>	0.011	<b>3.005**</b>
	1=Living at same apartment with MIL	[-0.046]	[2.062]	[-0.052]	[2.039]	[0.017]	[2.127]
Quasi MIL	0=Others	-0.172	1.553	-0.169	1.553	-0.150	1.470
	1=Living at same building with MIL	[-0.608]	[1.561]	[-0.604]	[1.557]	[-0.518]	[1.557]
Age at marriage		0.028	0.096	0.028	0.094	0.032	0.071
		[0.644]	[0.606]	[0.648]	[0.594]	[0.765]	[0.482]
Wife years of education		0.002	0.160	0.001	0.162	-0.003	0.185
		[0.036]	[1.032]	[0.030]	[1.036]	[-0.070]	[1.002]
Couple difference in educational years	0=Others	-0.222	-2.109	-0.222	-2.076	-0.200	-1.620
	1= Husband had higher number of educational years	[-0.713]	[-1.340]	[-0.712]	[-1.375]	[-0.642]	[-1.100]
Wife work	0=Not working	-0.019	<b>-2.830***</b>	-0.020	<b>-2.854***</b>	0.021	<b>-2.982***</b>
	1=Working	[-0.057]	[-2.744]	[-0.059]	[-2.684]	[0.064]	[-2.792]
Husband work	0=Not working	0.054	2.618	0.051	2.613	0.100	2.357
	1=Working	[0.062]	[1.192]	[0.059]	[1.202]	[0.113]	[1.066]
Wealth quint		-0.138	-0.169	-0.139	-0.164	-0.123	-0.158
		[-1.296]	[-0.681]	[-1.293]	[-0.646]	[-1.082]	[-0.646]
Impact of in-laws	0=Others	-1.882	<b>-5.709***</b>	-1.889	<b>-5.692***</b>	-1.723	<b>-5.338***</b>
	1= In-laws increase my workload	[-1.365]	[-4.728]	[-1.364]	[-4.675]	[-1.030]	[-4.256]
Number of alive kids	0=< 3 kids			0.032	-0.232	0.093	-1.321
	1= Having 3+ kids			[0.084]	[-0.185]	[0.243]	[-0.890]
Male children only	0=No					0.458	<b>-2.390*</b>
	1=Yes						
Constant		<b>3.144**</b>	<b>-7.752**</b>	<b>3.114**</b>	<b>-7.527**</b>	<b>2.732*</b>	-4.663
		[2.164]	[-2.369]	[2.152]	[-2.379]	[1.938]	[-1.415]
Observations		954	954	954	954	954	954
chi2		96.81	96.81	97.06	97.06	106.9	106.9
ll		-2712	-2712	-2712	-2712	-2708	-2708
df_m		20	20	22	22	24	24
pi1_est		0.706	0.706	0.706	0.706	0.687	0.687

\*p &lt;0.1, \*\* p&lt;0.05, \*\*\* p&lt;0.01

## Mother-in-law and marital relationship quality

Table 5: OLS regression results for trust and satisfaction scales

Covariates	Description	Trust			Satisfaction		
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Marital duration		-0.095** [-2.244]	-0.097* [-1.767]	-0.099* [-1.798]	-0.080*** [-3.357]	-0.087*** [-2.821]	-0.089*** [-2.893]
Strict MIL	0=Others 1=Living at same apartment with MIL	2.357* [1.846]	2.357* [1.845]	2.332* [1.824]	1.279* [1.794]	1.280* [1.794]	1.253* [1.758]
Quasi MIL	0=Others 1=Living at same building with MIL	1.036* [1.767]	1.038* [1.767]	1.022* [1.739]	0.486 [1.478]	0.492 [1.495]	0.475 [1.444]
Age at marriage		0.106 [1.283]	0.106 [1.283]	0.107 [1.290]	0.080* [1.709]	0.080* [1.723]	0.081* [1.737]
Wife years of education		0.167** [2.410]	0.167** [2.404]	0.168** [2.421]	0.080** [2.061]	0.079** [2.043]	0.081** [2.081]
Couple difference in educational years	0=Others 1= Husband had higher number of educational years	-0.330 [-0.505]	-0.332 [-0.506]	-0.335 [-0.512]	-0.570 [-1.552]	-0.575 [-1.564]	-0.581 [-1.583]
Wife work	0=Not working 1=Working	-1.826*** [-2.630]	-1.827*** [-2.629]	-1.860*** [-2.670]	-1.264*** [-3.253]	-1.264*** [-3.250]	-1.301*** [-3.342]
Husband work	0=Not working 1=Working	2.807 [1.534]	2.803 [1.530]	2.773 [1.513]	1.670 [1.635]	1.658 [1.622]	1.622 [1.587]
Wealth quint		-0.039 [-0.191]	-0.039 [-0.192]	-0.044 [-0.214]	-0.275** [-2.404]	-0.276** [-2.412]	-0.282** [-2.468]
Impact of in-laws	0=Others 1= In-laws increase my workload	-7.206*** [-7.622]	-7.209*** [-7.611]	-7.176*** [-7.565]	-4.776*** [-9.011]	-4.787*** [-9.014]	-4.750*** [-8.943]
Number of alive kids	0=< 3 kids 1= Having 3+ kids		0.047 [0.062]	-0.070 [-0.090]		0.159 [0.374]	0.026 [0.060]
Male children only	0=No 1=Yes			-0.521 [-0.733]			-0.611 [-1.534]
Constant		13.626*** [4.926]	13.579*** [4.739]	13.925*** [4.794]	-1.416 [-0.915]	-1.569 [-0.980]	-1.165 [-0.718]
Observations		961	961	961	954	954	954
R-squared		0.092	0.092	0.093	0.136	0.136	0.139

Mother-in-law and marital relationship quality

FIGURES

Figure 1

Scree plots of trust and satisfaction scales after factor analysis in round 1

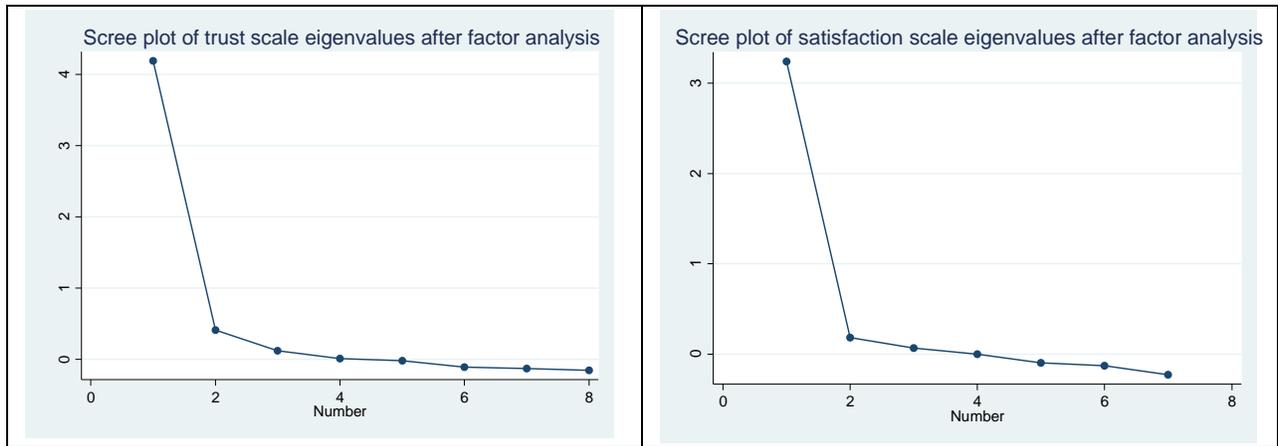
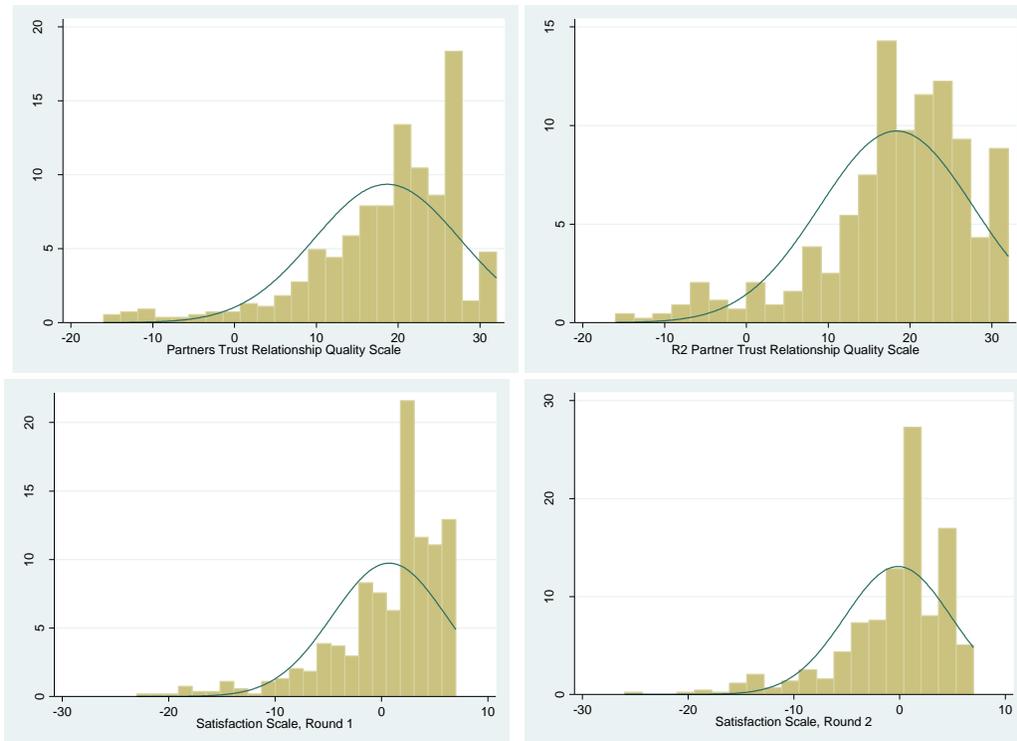
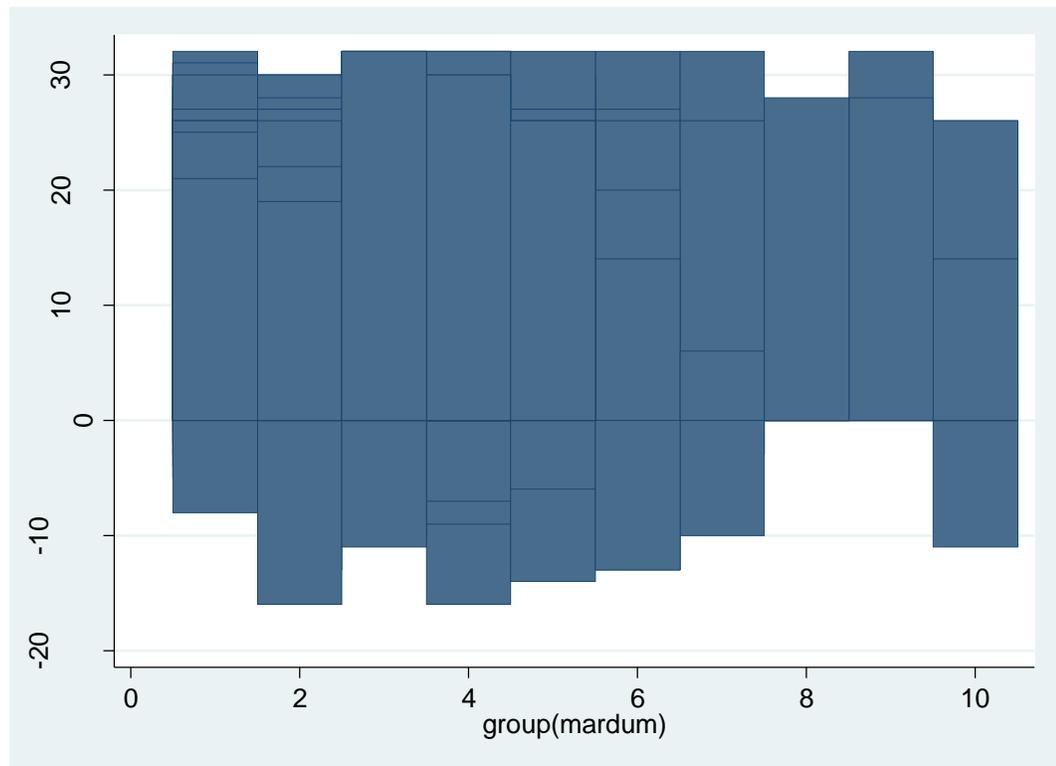


Figure 2 Histogram and normal curve distribution curves of marital scales in round 1 and round 2



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Figure 3 Trust scale against categorical marital duration variable



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