Fertility Decline, Gender Composition of Families, and Expectations of Old Age Support

INCOMPLETE DRAFT

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Long Abstract

Recent fertility declines in non-Western countries have important consequences for social life, including the potential to transform gender systems. One way that fertility declines may transform gender systems is by creating substantial proportions of families with children of only one gender. Such families, particularly those with only daughters, may facilitate greater symmetry between sons and daughters and challenge underlying patriarchal systems that support gender inequality. This paper explores specifically whether shifts in the gender composition of families that accompany fertility decline may influence expectations of old age support in India. In keeping with largely patrilineal family systems, old age support is customarily provided by sons, not daughters, India. I hypothesize that expectations of sons providing old age support will be challenged by fertility decline. The growing numbers of parents who have only daughters will shift their expectations of old age support away from sons and towards daughters or some other source. I also hypothesize that this link will be moderated by the completeness of childbearing. Those who have completed their childbearing will be more likely to shift their expectations of old age support, than those hoping to have more children. Using data from the 2005 Indian Human Development Survey, I find that women with sons overwhelmingly expect old age support from a son. By contrast, women with only daughters are much more likely to expect support from a daughter or someone else other than a son. Further, as expected, women with only daughters whose childbearing is complete are more likely to expect support from someone other than a son than those still engaged in childbearing. These results indicate that women's expectations of old age support are strongly shaped by the gender composition of their children. Further, the shifts in the gender composition of children that fertility decline is creating in India may well present a substantial challenge to patriarchal patterns of old age support.

Introduction and Theoretical Background - To be added

Methods

Data

The data come from the Indian Human Development Survey (IHDS) collected in 2005. The design and collection of the IHDS was overseen by researchers at the University of Maryland and the National Council of Applied Economic Research in New Delhi (Desai et al. 2009). The survey is nationally representative of India with data from 41,554 households located in 33 Indian states and union territories. Data were collected in face-to-face interviews with respondents comprising household heads and ever married women aged 15-49 that were residing in selected households. The main questions of interest to this analysis were part of the module administered to women. Thus, the analytical sample comprises 32,767 ever married women aged 15-49 who answered questions on expectations of old age support.

Measures

Dependent variables. Expectations of support in old age are measured using two questions. Women were asked "Who do you expect to live with when you get old?" and "Who do you expect will support you financially when you get older?". Response options for both questions included: 1) son; 2) daughter; 3) both (son and daughter); and 4) no one or other. All four response options are retained in the two categorical variables used to measure women's expectations of old age support.

Independent variable. The independent variable of interest is the gender composition of women's children. This variable is constructed based on the gender of women's surviving children at the time of interview. It includes the following categories: 1) both son(s) & daughter(s); 2) son(s) only; 3) daughter(s) only; and 4) no children. 58% of women have children of both genders, 22% have only son(s), 14% have only daughter(s), and 8% have no children (Table 1). The larger proportion of women who have only son(s) compared to those with only daughter(s) is consistent with the practice of women

continuing or stopping childbearing in part based on whether or not they have a son, gender differentials in mortality, and, to a lesser extent, sex-selective abortion (REFERENCES).

Moderator. Women's childbearing status is a variable that draws on indicators of women's fertility preferences, contraceptive use, and age to measure the completeness of their childbearing. Women are sorted into three childbearing categories: 1) incomplete; 2) possibly complete; and 3) complete. Women whose childbearing is categorized as incomplete include women who want to have another child, are less than 40 years old, and are not sterilized. All women that were pregnant at the time of the survey are also included in this incomplete category. Women with possibly complete childbearing include all women aged 40 and older who are not sterilized, as well as women of any age who do not want another child and are not sterilized. Finally, women with complete childbearing category, 41% possibly complete, and 38% complete (Table 1).

Controls. Several variables that are likely to be associated with both expectations of old age support and the gender composition of children are included as controls. These control variables include standard socio-economic measures, comprising urban residence, age, religion/caste, education, employment, the number of household assets, the log of household income, and the state of residence. Another set of controls includes measures of the local gender system and gender scripts (Desai and Andrist 2010). These are based on women's reports of gendered behaviors in their household and community, including whether she practices purdah, whether men and women in her household eat together, whether girls in her community are often harassed, and which families support widows in her community. The total number of reasons for which men in her community usually beat their wives, up to a maximum of five, is also included as a gender system control. The five reasons women were asked about include: 1) if a wife goes out without telling her husband; 2) if the wife's natal family does not give expected money or other items; 3) if the wife neglects the home or children; 4) if the wife doesn't cook

food properly; and 5) if the husband suspects his wife of having relations with other men. Other socioeconomic and gender system measures were included in earlier analyses, but are not included in the final analysis because they did not have an association with expectations of old age support and did not affect the impact of the gender composition of children on expectations of old age support. The categories and descriptives statistics for the controls appear in Table 1.

Analysis

The analysis comprises three main steps. First, I empirically explore the connection between fertility decline and the gender composition of children in the case of India. Specifically, I show how the gender composition of children differs in states with contrasting histories of fertility decline. Next, I descriptively examine the hypothesized associations between the gender composition of children and expectations of old age support using simple crosstabulations. I explore how the distributions of women's expectations of old age support differ by the gender composition of their children. I also examine how these distributions change across women's childbearing status, particularly among women who have only daughter(s). Finally, in a multivariate analysis, I examine whether the associations between the gender composition of children and expectations of old age support found in the descriptive analysis persist when others factors are taken into account. The two dependent variables are both categorical, thus, this step uses multinomial logit models. The reference category for both dependent variables is the customary option of expecting a son to provide support in old age.

Two different sets of multivariate models are presented. One set is used to examine the association between the gender composition of children and expectations of old age support among all women in the sample (Table 2). The second set examines how this association varies among women of different childbearing statuses (Table 3). Thus, the original models are re-run and presented separately for women with incomplete, possibly complete, and complete childbearing. All models are weighted to adjust for the survey design.

Results

Fertility decline and the gender composition of children

Fertility has declined substantially in recent decades in India. In the early 1960s, India had a total fertility rate of six children per woman (Rele 1987). In the ensuing five decades, India's total fertility rate declined steadily to its lowest level of 2.5 in 2010 (Registrar Gender [India] 2012). Like the nation as a whole, individual Indian states have also experienced substantial declines in fertility. However, there is also a great deal of diversity among the history of fertility decline at the state level. Some states experienced declines that were slower than the national average and still have total fertility rates substantially above the replacement level. Other states experienced fertility declines that were more rapid than the national average and have had below replacement fertility for several years.

The range of experiences of fertility decline in India are apparent in Figure 1, which shows total fertility rates from 1961 to 2010 for the states of Uttar Pradesh and Kerala, as well as all India. Uttar Pradesh is a state which has had the highest fertility rates in India. Uttar Pradesh's total fertility rate fell from 6.3 in the early 1960s down to 3.5 in 2010. Thus, Uttar Pradesh has experienced a substantial decline in fertility in recent decades. However, the decline is not yet complete. Uttar Pradesh's total fertility rate is still more than one child above the replacement level. Kerala is a state at the other end of the range of Indian fertility experiences. In the early 1960s, Kerala's total fertility rate of five children per woman was already one child below the national level. Then in just three decades Kerala's fertility rate declined rapidly to a level below replacement by 1990. For the last two decades Kerala's total fertility rate has consistently stayed below replacement at around 1.8 children per woman.

These differences in the history of fertility decline should translate into differences in the gender composition of children in families. Kerala's experience should translate into a relatively large proportion of families with only daughters, while Uttar Pradesh should have a relatively small proportion of families with only daughters. This pattern is supported empirically in Figure 2, which shows the

gender composition of children among women who have at least one child in Uttar Pradesh, Kerala, and all India. 13% of the women with at least one child living in Uttar Pradesh have only daughters. This percentage is almost doubled in Kerala where 23% of women with at least one child have only daughters. India as a whole has a composition closer to Uttar Pradesh's with 15% of women having only daughters. Similarly, the proportion of women with only sons is also substantially higher in Kerala. Specifically, the proportion of women with at least one child who have only sons is 17% in Uttar Pradesh, 23% in all India, and 32% in Kerala. Thus, in keeping with the theoretical pathways described above, the majority of women with children living in the state with a comparatively long history of low fertility have children of only one gender. By contrast, only a third of the women living in the state with comparatively high levels of fertility have children of only one gender.

Associations between children's gender composition and expectations of support

Next, I explore associations between women's expectations of old age support and the gender composition of their children. First, I examine the distribution of women's expectations of who they will live with when they are older by the gender composition of their children (Figure 3). Expectations of corresidence are similar for women who have who have only sons and women who have sons as well as daughters. The vast majority of these women who have sons, specifically 95% and 92% respectively, expect to live with a son in old age. In turn, only a very small proportion of these women with sons expect to live with a daughter or in some other situation. Specifically, among women with children of both genders, 1% expect to live with a daughter, 4% expect to live with both a son and daughter, and 3% expect to live with no one or someone else. Similarly, among women with only sons, less than one percent expect to live with a daughter, 1% expect to live with both a son and daughter, and 3% expect to live with no one or someone else. Overall, women who have son(s), regardless of whether or not they also have daughter(s), overwhelmingly expect to live with a son.

Women without sons, namely those with only daughters or no children at all, have very different expectations of who they will live with when they are older. Among women with only daughter(s), 33% expect to live with a daughter, 6% expect to live with both a son and daughter, and 26% expect to live with no one or in some other situation. The remaining third of these women with only daughter(s) voiced the customary expectation of living with a son. Among women with no children, nearly half expect to live with a son and 45% expect to live with no one or in some other situation. The remaining 7% of women with no children expect to live with a daughter or with both a son and daughter. Thus, overall, sizeable proportions of women without sons still expect to live with a son in old age, but the majority of these women expect to live with daughters or in some other situation.

Next, I examine the distribution of women's expectations of who will provide them financial support when they are older by the gender composition of their children (Figure 4). The results for expectations of financial support are nearly identical to those for co-residence discussed above. Thus, I do not describe the results in detail. Again, the vast majority of women with sons, 90% or more, expect financial support from a son, regardless of whether or not they also have daughters. The expectations of women who do not have sons are more mixed. Women with only daughters are relatively evenly divided among expecting financial support from a son, a daughter, and no one or other. This group also stands out as being the only group with a sizeable proportion expecting support from a daughter. Women with no children at all are relatively evenly divided between expecting financial support from a son and no one or other.

As described above, I expect the relationship between expectations of old age support and gender composition of children to be moderated by the completeness of women's childbearing. I hypothesized that women whose childbearing is complete will be more strongly influenced by the gender composition of their existing children because they do not expect, nor hope, to have more children. This hypothesized moderating connection is especially important among women who have

only daughters because it is these women who may still hope to fulfill the customary expectation of having a son. Thus, to explore this potential moderating connection I examined the associations between expectations of old age support and gender composition of children by the completeness of women's childbearing. The results of these explorations were again nearly identical for expectations of financial support and co-residence. Thus, for the sake of parsimony, I show only the results for expectations of co-residence, but the findings also apply to financial support.

In Figure 5, I show these descriptive results for women with only daughters. Specifically, Figure 5 shows who women with only daughter(s) expect to live with when they are older by the completeness of their childbearing. As expected, women whose childbearing is more complete are much more likely to expect to live with a daughter. Specifically, 58% of women who have completed their childbearing expect to live with a daughter compared to 36% with possibly complete childbearing and 20% with incomplete childbearing.

Two other results also stand out in this exploration. First, the proportion of women with only daughters who expect to live with no one or in some other situation does not change substantially across childbearing statuses. 26% of women with only daughters whose childbearing is incomplete expect to live with no one or in some other situation in old age (Figure 5). This percentage is similar to those for women whose childbearing is possibly complete and definitely complete at 29% and 23% respectively. Second, the proportion of women who still stay they expect to live with a son in old age even though their childbearing is complete and they have no son is still sizeable. 17% of women with only daughters whose childbearing is complete say they expect to live with a son in old age (Figure 5). *Multivariate analysis*

Finally, using multinomial logit models I examine whether the associations described above persist once I control for potentially confounding factors. Overall, the associations between the gender composition of children and expectations of old age support are still strong in the multivariate models.

In fact, the coefficients for the gender composition of children are very large, indicating an exceedingly strong and significant effect (Table 2). Specifically, the coefficients for women with only daughters are 5.43 for expecting to live with a daughter and 5.17 for expecting to receive financial support from a daughter. These results indicate that women with only daughters are much more likely than women with both son(s) and daughter(s) to expect support from a daughter, rather than a son. These women with only daughters are also much more likely than those with children of both genders to expect support from no one or someone who is not their child. The coefficients for daughter(s) only are 3.89 and 3.68 respectively for expecting to live with or receive financial support from no one or other.

[Table 2 about here]

The expectations of old age support among women with no children also differ substantially from women with both son(s) and daughter(s) (Table 2). All of the coefficients for women with no children are positive, large, and significant, indicating that these women are more likely than those with children of both genders to expect support from someone other than a son. These women with no children are most likely to expect old age support from no one or someone other than a child. For expectations of co-residence in old age, the no children category has a coefficient of 1.31 for expecting a daughter and 1.18 for expecting both a son and a daughter. By contrast, the coefficient for expecting to live with no one or other among those with no children is significantly and substantively larger at 4.31. The coefficients are very similar for expectations of financial support. The coefficient for expecting a daughter is 1.56, for both a son and daughter 0.81, and for no one or other 4.14.

The expectations of women with only sons also differ significantly from those with both son(s) and daughter(s) (Table 2). Women with only sons are significantly less likely than women with children of both genders to expect support from a daughter or both a son and a daughter. The coefficients for women with only son(s) expecting co-residence with a daughter is -0.94 and -1.51 for both a sons and daughter. Similarly, the coefficients for expectations of financial support among these women with only

son(s) are -0.89 for expecting support from a daughter and -1.56 for expecting it from both a son and daughter. These women with only son(s) do not differ significantly from women with children of both genders in expecting support from no one or someone other than their child. The coefficient for son(s) only and expecting to co-reside with no one or other is 0.11 and not significant. Similarly, the coefficient for son(s) only and expecting financial support from no one or other is 0.13 and not significant.

Next, I explore whether the results of the multivariate analysis support the role of women's childbearing status as a moderator, particularly for women with only daughter(s). The results of the models run separately for women in each of the three childbearing statuses – incomplete, possibly complete, and complete – appear in Table 3. The effect of the gender composition of women's children on expectations of old age support does differ significantly by childbearing status. In pooled models of all childbearing statuses the interaction of childbearing status and the gender composition of children are statistically significant for both co-residence and financial support (results not shown). Thus, childbearing status does moderate the connection between the gender composition of children and expectations of support in old age.

The impact that childbearing status has on the expectations of women with only daughter(s) is limited though to a distinction between incomplete versus possibly complete or complete childbearing (Table 3). As expected, women who have only daughter(s) are less likely to expect old age support from a daughter if their childbearing is incomplete. Further as expected, these women with only daughter(s) are also less likely to expect support from no one or other if their childbearing is incomplete. However, contrary to the descriptive results above, there is not a significant difference between these women with possibly complete versus complete childbearing. The coefficient for expecting to live with a daughter is 4.28 for women with only daughter(s) whose childbearing is incomplete. This coefficient rises to 6.05 for those whose childbearing is possibly complete, but then stays roughly constant at 5.98 for those with complete childbearing. Similarly, the coefficient for expecting financial support from a

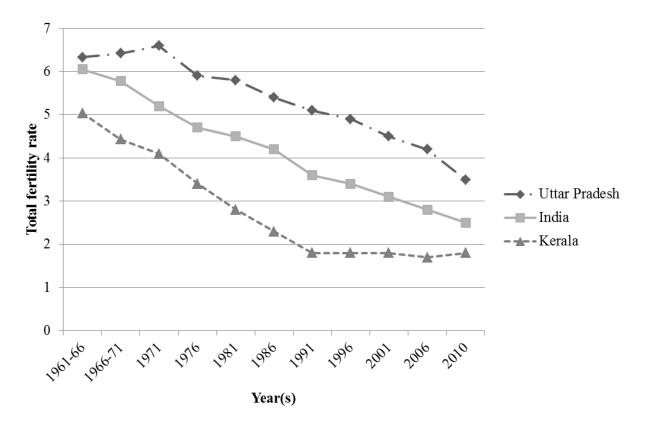
daughter is 4.28 for women with only daughter(s) whose childbearing is incomplete, 5.39 for those with incomplete childbearing, and 5.57 for those with complete childbearing. The same pattern is seen for the coefficients for expecting no one or other among women with only daughter(s).

[Table 3 about here]

It is possible that reverse causation could be driving some or all of the association between having only daughters and expecting support from someone other than a son. Women who start their childbearing lives with non-traditional expectations of support in old age may be more content to have only daughters. Thus, perhaps it is non-traditional expectations of old age support that are driving the gender composition of children, rather than the gender composition of children driving women's expectations of old age support. To explore this possibility I ran further analyses that compared the expectations of women with 1-2 daughters only to women with 3+ daughters only. Compared to women with 1-2 daughters only, women with 3+ daughters only should be disproportionately comprised of those who were not content to have only daughters. Having a large number of daughters suggests that women kept having births in order to have a son, but were not successful. Thus, women with 3+ daughters should have more traditional expectations of support in old age than women with 1-2 daughters. In turn, if reverse causation is driving the results, the women with 1-2 daughters only should be significantly more likely than the women with 3+ daughters only to give non-traditional responses of expecting support from a daughter or no one or other. In models that distinguish between women with 1-2 versus 3+ daughters only, it is the women with 3+ daughters who are significantly more likely than those with 1-2 daughters to expect support from a daughter or no one or someone else (results not shown). This result indicates that reverse causation is not driving the findings; it is the gender composition of children that is shaping women's expectations of old age support, rather than the other way around.

Discussion and Conclusion - To be added

Figure 1. Total fertility rates for all India and the states of Uttar Pradesh and Kerala from 1961 to 2010.



Sources: 1971-2010 from the Sample Registration System (Registrar General [India] 2009, 2012) and 1961-71 from the Census (Rele 1987).

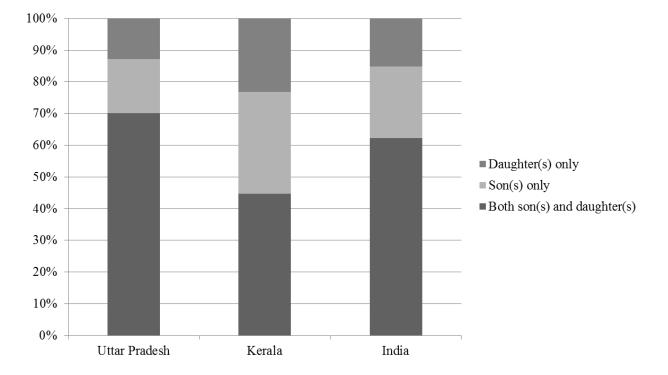


Figure 2. Gender composition of children among women with at least one child living in Uttar Pradesh (n = 2,916), Kerala (n = 1,276), and all India (n = 32,767).

Source: Indian Human Development Survey (IHDS) 2005.

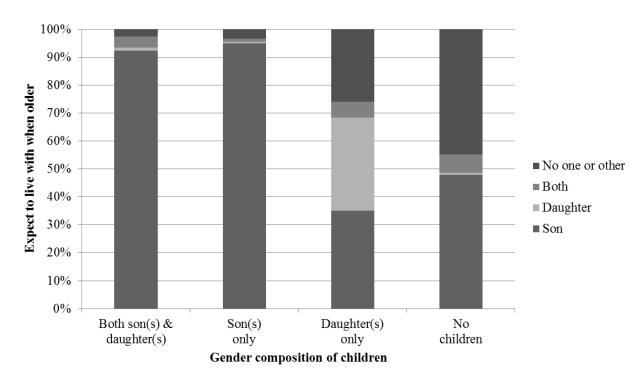


Figure 3. Women's expectations of who they will live with when they are older by the gender composition of their children (n = 32,767).

Source: Indian Human Development Survey (IHDS) 2005.

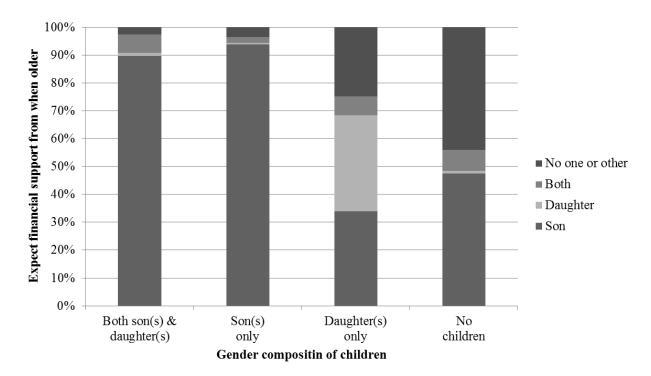


Figure 4. Women's expectations of who they will receive financial support from when they are older by the gender composition of their children (n = 32,767).

Source: Indian Human Development Survey (IHDS) 2005.

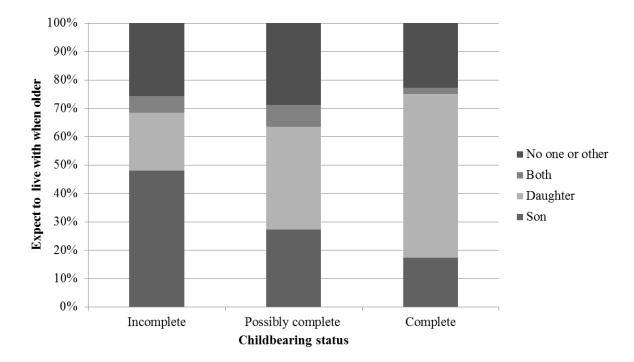


Figure 5. Expectations of who they will live with when older by childbearing status among women who have only daughter(s) (n = 4,581).

Source: Indian Human Development Survey (IHDS) 2005.

| Variable | Percent |
|-----------------------------|----------------|
| Composition of children | |
| Son(s) & daughter(s) | 57.8 |
| Son(s) only | 21.5 |
| Daughter(s) only | 14.3 |
| No children | 7.9 |
| Urban residence | 28.8 |
| Age | mn:33.0 sd:7.9 |
| Religion/caste | |
| Upper caste Hindu | 20.2 |
| Other Backward Caste | 35.7 |
| Dalit | 22.3 |
| Adivasi | 7.5 |
| Muslim | 11.6 |
| Other religion | 2.8 |
| Education | |
| None | 48.1 |
| 1-5 years | 16.7 |
| 6-9 years | 18.4 |
| 10-12 years | 12.4 |
| College | 4.5 |
| Employment | |
| Not employed | 56.3 |
| Unpaid agricultural work | 18.1 |
| Paid agricultural work | 16.4 |
| Non-agricultural work | 9.3 |
| Household assets | mn:11.4 sd:6.2 |
| Log of household income | mn:10.2 sd:1.6 |
| Girls harassed in community | 19.4 |
| Widow support in community | |
| Husband's family | 36.9 |
| Both families | 31.4 |
| Natal family | 25.3 |
| Other or neither | 6.4 |
| Practices purdah | 54.7 |
| Men and women eat together | 49.1 |
| Reasons for beating wife | mn:2.1 sd:1.7 |
| Childbearing status | |
| Incomplete | 21.1 |
| Possibly complete | 40.7 |
| Complete | 38.2 |

Table 1. Descriptive statistics for variables used in multivariate analysis (n = 32,767).

Source: Indian Human Development Survey (IHDS) 2005.

| | Expect to live with | | | Expect financial support from | | | |
|----------------------------|--------------------------|--------------------------|--------------------------|-------------------------------|--------------------------|--------------------------|--|
| | Both | | | Both | | | |
| | Daughter | daughter and son | No one or other | Daughter | daughter and son | No one or other | |
| Composition of children | U | | | U | | | |
| Son(s) & daughter(s) (ref) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Son(s) only | -0.94** | -1.51** | 0.11 | -0.89** | -1.56** | 0.13 | |
| Daughter(s) only | (.33) 5.43** | (.18) 1.39** | (.10) 3.89** | (.24) 5.17** | (.14) 1.08** | (.10) 3.68** | |
| No children | (.19) 1.31** (.42) | (.13) 1.18** (.16) | (.11) 4.31** (.13) | (.19) 1.56** (.33) | (.12) 0.81** (.14) | (.10) 4.14** (.12) | |
| Urban residence | 0.34 (.19) | 0.19 | 0.48** (.10) | 0.39** (.12) | -0.03 (.12) | (.12) 0.51** (.10) | |
| Religion/caste | (.17) | (.15) | (.10) | (.12) | (.12) | (.10) | |
| Upper caste Hindu (ref) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Other Backward Caste | -0.06 | 0.13 | -0.05 | 0.10 | 0.14 | -0.01 | |
| Dalit | (.16) 0.31 | (.12) 0.25 | (.11) 0.14 | (.11) 0.14 | (.11) 0.09 | (.11) 0.11 | |
| Adivasi | (.17) 0.67** | (.15) 0.30 | (.11) 0.35* | (.14) 0.62** | (.13) 0.06 | (.11) 0.41** | |
| Muslim | (.24) -0.18 | (.20) -0.09 | (.15) -0.10 | (.20) -0.14 | (.19) -0.16 | (.15) -0.02 | |
| Other religion | (.18) 0.43 (.26) | (.18) 0.15 (.24) | (.14) 0.29 (.19) | (.17) 0.20 (.23) | (.16) 0.02 (.19) | (.14) 0.19 (.17) | |
| Age | 0.06** (.01) | -0.00 (.01) | 0.02** (.01) | 0.07** (.01) | -0.00 (.01) | 0.02** (.01) | |
| Education | | | | | | | |
| None (ref) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1-5 years | -0.06 (.19) | 0.14 (.14) | 0.14 (.10) | 0.23 (.13) | 0.24* (.12) | 0.20* (.10) | |
| 6-9 years | -0.03 (.17) | (.14) 0.02 (.12) | (.10) -0.00 (.10) | 0.15 (.13) | (.12) 0.19 (.11) | (.10) 0.13 (.09) | |
| 10-12 years | (.17) 0.09 (.19) | (.12) 0.40** (.15) | -0.00 (.11) | 0.37* (.16) | (.11) 0.45** (.13) | (.09) 0.18 (.11) | |
| College | (.19) 0.48* (.24) | (.13) 0.56** (.18) | (.11) 0.46** (.15) | (.10) 0.73** (.19) | (.13) 0.57** (.16) | (.11) 0.67** (.15) | |
| Employment | . / | . , | | . / | | . , | |
| Not employed (ref) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

Table 2. Coefficients and standard errors from multinomial logit models of women's expectations of old age support (n = 32,767). The reference category is expecting a son to provide support. All models also include controls for state.

| Paid agricultural work (17) -0.01 (18) 0.10 (13) -0.05 (14) 0.25 (14) 0.10 (14) 0.05 (13)Non-agricultural work (33) 0.86^{**} (33) 0.04 (16) 0.19 (13) 0.44^{**} (14) -0.05 (13) 0.24^{**} (14)Household assets (02) -0.01 (02) 0.02 (01) 0.00 (01) 0.01 (01) 0.02^{*} (01) -0.00 (01)Log of household income (02) -0.07^{*} (03) -0.02 (03) -0.04 (03) -0.07^{*} (03) -0.00 (03) -0.05 (03)Girls harassed in community Husband's family (ref) -0.59^{**} 0.00 -0.11 (13) 0.02 (11) 0.12 (14) 0.29^{**} (16) 0.04 (17)Widow support in community Husband's family (ref) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 Both families (15) 0.18 (15) 0.85^{**} (16) 0.17 (17) 0.14 (12) 0.26^{**} (10)Natal family Other or neither 0.07 (13) -0.01 (13) 0.15 (16) 0.16^{**} (16) 0.05 (17)Practices purdah (13) 0.08 (12) 0.23^{**} (13) 0.14 (14) 0.21 (12) 0.20^{**} (10)Men and women eat together (03) 0.05 (03) 0.02^{**} (03) 0.01 (03) 0.03^{**} (03) 0.03^{*} (03) 0.03^{**} (03)Constant -7.36^{**} -3.94^{**} -6.83^{**} -6.39^{**} $-5.$ | Unpaid agricultural labor | -0.04 (.18) | 0.27 (.14) | 0.15 (.13) | 0.08 (.18) | 0.24* (.11) | 0.21 (.13) |
|--|-----------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | Paid agricultural work | -0.01 | 0.10 | -0.05 | 0.25 | 0.10 | 0.05 |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | Non-agricultural work | 0.86** | 0.04 | 0.19 | 0.44** | -0.05 | 0.24* |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | Household assets | | | | | | |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | Log of household income | | | | | | |
| Husband's family (ref) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 Both families 0.18 0.85^{**} 0.12 0.09 0.66^{**} 0.10 Natal family 0.07 -0.01 -0.15 -0.17 -0.14 -0.26^{**} $(.16)$ $(.17)$ $(.10)$ $(.13)$ $(.15)$ $(.10)$ Other or neither 1.21^{*} 0.21 0.99^{**} -0.05 -0.27 0.63^{**} $(.58)$ $(.33)$ $(.16)$ $(.20)$ $(.21)$ $(.14)$ Practices purdah -0.08 -0.20 0.23^{*} -0.05 -0.29^{*} 0.09 $(.13)$ $(.12)$ $(.11)$ $(.14)$ $(.13)$ $(.11)$ Men and women eat together -0.05 0.32^{**} 0.14 0.21 0.20 0.20^{*} $(.21)$ $(.12)$ $(.09)$ $(.11)$ $(.10)$ $(.09)$ Reasons for beating wife -0.01 -0.05 -0.07^{**} -0.02 -0.00 -0.06^{*} $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ | Girls harassed in community | | | | | | |
| Husband's family (ref) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 Both families 0.18 0.85^{**} 0.12 0.09 0.66^{**} 0.10 Natal family 0.07 -0.01 -0.15 -0.17 -0.14 -0.26^{**} $(.16)$ $(.17)$ $(.10)$ $(.13)$ $(.15)$ $(.10)$ Other or neither 1.21^{*} 0.21 0.99^{**} -0.05 -0.27 0.63^{**} $(.58)$ $(.33)$ $(.16)$ $(.20)$ $(.21)$ $(.14)$ Practices purdah -0.08 -0.20 0.23^{*} -0.05 -0.29^{*} 0.09 $(.13)$ $(.12)$ $(.11)$ $(.14)$ $(.13)$ $(.11)$ Men and women eat together -0.05 0.32^{**} 0.14 0.21 0.20 0.20^{*} $(.21)$ $(.12)$ $(.09)$ $(.11)$ $(.10)$ $(.09)$ Reasons for beating wife -0.01 -0.05 -0.07^{**} -0.02 -0.00 -0.06^{*} $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ | Widow support in community | | | | | | |
| Natal family $(.13)$ $(.13)$ $(.10)$ $(.14)$ $(.12)$ $(.10)$ Natal family 0.07 -0.01 -0.15 -0.17 -0.14 -0.26^{**} $(.16)$ $(.17)$ $(.10)$ $(.13)$ $(.15)$ $(.10)$ Other or neither 1.21^* 0.21 0.99^{**} -0.05 -0.27 0.63^{**} $(.58)$ $(.33)$ $(.16)$ $(.20)$ $(.21)$ $(.14)$ Practices purdah -0.08 -0.20 0.23^* -0.05 -0.29^* 0.09 $(.13)$ $(.12)$ $(.11)$ $(.14)$ $(.13)$ $(.11)$ Men and women eat together -0.05 0.32^{**} 0.14 0.21 0.20 0.20^* $(.21)$ $(.12)$ $(.09)$ $(.11)$ $(.10)$ $(.09)$ Reasons for beating wife -0.01 -0.05 -0.07^{**} -0.02 -0.00 -0.06^* $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ Constant -7.36^{**} -3.94^{**} -6.83^{**} -6.39^{**} -3.29^{**} -5.91^{**} | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Natal family 0.07 -0.01 -0.15 -0.17 -0.14 -0.26^{**} $(.16)$ $(.17)$ $(.10)$ $(.13)$ $(.15)$ $(.10)$ Other or neither 1.21^* 0.21 0.99^{**} -0.05 -0.27 0.63^{**} $(.58)$ $(.33)$ $(.16)$ $(.20)$ $(.21)$ $(.14)$ Practices purdah -0.08 -0.20 0.23^* -0.05 -0.29^* 0.09 $(.13)$ $(.12)$ $(.11)$ $(.14)$ $(.13)$ $(.11)$ Men and women eat together -0.05 0.32^{**} 0.14 0.21 0.20 0.20^* $(.21)$ $(.12)$ $(.09)$ $(.11)$ $(.10)$ $(.09)$ Reasons for beating wife -0.01 -0.05 -0.07^{**} -0.02 -0.00 -0.06^* $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ Constant -7.36^{**} -3.94^{**} -6.83^{**} -3.29^{**} -5.91^{**} | Both families | | | | | | |
| Other or neither 1.21^* 0.21 0.99^{**} -0.05 -0.27 0.63^{**} $(.58)$ $(.33)$ $(.16)$ $(.20)$ $(.21)$ $(.14)$ Practices purdah -0.08 -0.20 0.23^* -0.05 -0.29^* 0.09 $(.13)$ $(.12)$ $(.11)$ $(.14)$ $(.13)$ $(.11)$ Men and women eat together -0.05 0.32^{**} 0.14 0.21 0.20 0.20^* $(.21)$ $(.12)$ $(.09)$ $(.11)$ $(.10)$ $(.09)$ Reasons for beating wife -0.01 -0.05 -0.07^{**} -0.02 -0.00 -0.06^* $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ Constant -7.36^{**} -3.94^{**} -6.83^{**} -6.39^{**} -3.29^{**} -5.91^{**} | Natal family | 0.07 | -0.01 | -0.15 | -0.17 | -0.14 | -0.26** |
| $(.13)$ $(.12)$ $(.11)$ $(.14)$ $(.13)$ $(.11)$ Men and women eat together -0.05 0.32^{**} 0.14 0.21 0.20 0.20^{*} $(.21)$ $(.12)$ $(.09)$ $(.11)$ $(.10)$ $(.09)$ Reasons for beating wife -0.01 -0.05 -0.07^{**} -0.02 -0.00 -0.06^{*} $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ Constant -7.36^{**} -3.94^{**} -6.83^{**} -6.39^{**} -3.29^{**} -5.91^{**} | Other or neither | 1.21* | 0.21 | 0.99** | -0.05 | -0.27 | 0.63** |
| $(.21)$ $(.12)$ $(.09)$ $(.11)$ $(.10)$ $(.09)$ Reasons for beating wife -0.01 -0.05 -0.07^{**} -0.02 -0.00 -0.06^{*} $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ $(.03)$ Constant -7.36^{**} -3.94^{**} -6.83^{**} -6.39^{**} -3.29^{**} -5.91^{**} | Practices purdah | | | | | | |
| (.03)(.03)(.03)(.03)(.03)(.03)Constant-7.36**-3.94**-6.83**-6.39**-3.29**-5.91** | Men and women eat together | | | | | | |
| | Reasons for beating wife | | | | | | |
| (.83) (.56) (.55) (.76) (.57) (.55) | Constant | -7.36** (.83) | -3.94** (.56) | -6.83** (.55) | -6.39** (.76) | -3.29** (.57) | -5.91** (.55) |

*p<0.05, **p<0.01, two-tailed tests

Source: Indian Human Development Survey (IHDS) 2005.

| | Expect to live with | | | Expect f | inancial supp | port from |
|--|---------------------|--------------------------|-----------------|------------------|---------------------|--------------------------|
| | Both | | | Both | | |
| | Daughter | daughter and son | No one or other | Daughter | daughter and son | No one or other |
| Incomplete childbearing $(n = 6,486)$ | | | | | | |
| Son(s) & daughter(s) (ref) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Son(s) only | -1.19* (.57) | -1.78** (.33) | 0.23 (.28) | -0.82 (.75) | -1.33** (.29) | 0.20 (.29) |
| Daughter(s) only | 4.28** (.44) | 1.13** (.26) | 3.37** (.30) | 4.28** (.59) | 0.81** (.23) | 3.11** (.31) |
| No children | 0.61 (.67) | (.25) 1.07** (.25) | 3.92** (.30) | 1.28 (.68) | 0.69** (.23) | (.31) 3.66** (.32) |
| Possibly complete childbearing $(n = 9,343)$ | | | | | | |
| Son(s) & daughter(s) (ref) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Son(s) only | -0.26 (.29) | -1.12** (.24) | -0.03 (.16) | -0.77* (.30) | -1.57** (.20) | 0.09 (.15) |
| Daughter(s) only | 6.05** (.23) | 1.84** (.20) | 4.32** (.16) | 5.39** (.26) | 1.51** (.19) | 4.11** (.16) |
| No children | 1.49** (.46) | 1.21** (.33) | 4.76** (.20) | 0.88 (.51) | 0.91** (.30) | 4.54** (.20) |
| Complete childbearing $(n = 16,938)$ | | | | | | |
| Son(s) & daughter(s) (ref) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Son(s) only | -2.31** (.53) | -2.04** (.38) | -0.13 (.18) | -1.64** (.42) | -1.89** (.24) | -0.25 (.18) |
| Daughter(s) only | 5.98** (.21) | 0.65 | 4.18** (.18) | 5.57** (.19 | 0.56 (.26) | 3.86** (.18) |
| No children | - | - | - | - | - | - |

Table 3. Coefficients and standard errors for the gender composition of children from multinomial logit models of expectations of old age support for each of three childbearing statuses. All models also include controls for state and all variables appearing in Table 2.

*p<0.05, **p<0.01, two-tailed tests

Source: Indian Human Development Survey (IHDS) 2005.