

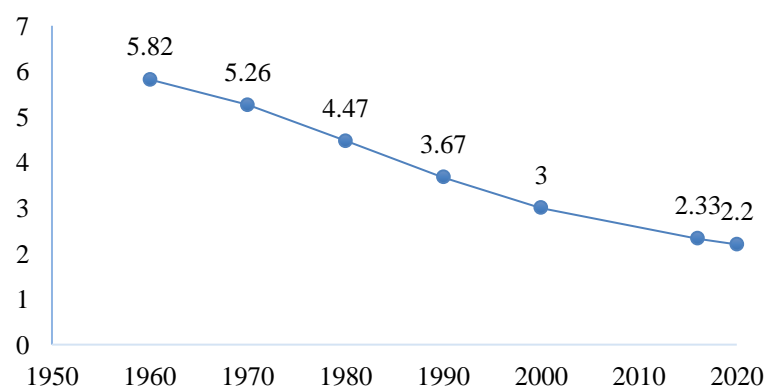
## A blessing in disguise? Daughters, sons and life satisfaction among India's elderly

*In regions where sons are culturally expected to provide old age support, being 'sonless' is constructed a greater concern for old age than is being 'daughterless', which could possibly exacerbate anxiety in the later years. Using data from the Longitudinal Aging Study in India (2019), I explore if gender composition of children influences life satisfaction among the elderly. Findings show gender composition influences life satisfaction in two ways, the presence of at least a son increases life satisfaction, and so does co-residence with child(ren). A family with no sons is the least preferred, and the elderly are closer to their son(s) compared to daughters. However, when controlling for key background characteristics, multivariate regression shows that the effect of gender composition declines and structural and normative factors assume greater importance. Individuals with higher levels of education, perceived social position, self-rated health and for whom religion is important, are more satisfied in the later years of their life. and the importance of religion. Besides the presence of a spouse and sibling, other aspects of social support are not impactful. As the well-being of the rising proportion of the elderly becomes important, this paper urges us to address different forms of inequality based on gender, education, access to resources and healthcare and social hierarchies.*

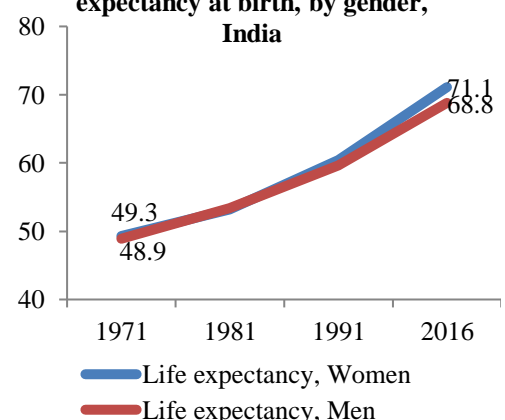
### Introduction

A key demographic milestone India will embark upon in the next ten years is that it will reach replacement level fertility of 2.23 among most social groups (PRB 2020). A downward fertility trend is visible among all sub-populations by region, caste, education, religion, wealth, age of marriage and place of residence (Guilmoto 2016, Registrar General of India 2016). Life expectancy at the ages of 60 and 80 is also increasing, with dramatic shifts in both female and male life expectancy in the last few decades (Subaiya & Bansod 2014). Declining fertility with increasing longevity (Figures 1 & 2), shift the age structure towards a greater proportion of an elderly population. Globally, the proportion of older adults (aged 65+) has increased from 5 percent in 1960, to 9 percent in 2019 and is projected to rise to 16 percent in 2050, with the proportion of the oldest old (ages 85+) growing the fastest (PRB 2020, UN 2019). The proportion of older people in India is projected to increase to 14 percent from the current 7 percent by 2050 (UN 2019). With public policies recognizing the importance of 'healthy aging' and 'aging-in-place', scholars are increasingly concerned with how perceptions and meanings attached to aging influence well-being (Sixsmith et al. 2014).

**Figure 1: Total fertility rate, India, over the years**



**Figure 2: Trend of life expectancy at birth, by gender, India**



Elderly well-being is a comprehensive state of bio-psycho-social well-being. It is influenced by socio-cultural norms and one's personal views on aging or 'self-perceptions of aging' (Moser et al. 2011, Wurm & Benyamini 2014). Subjective well-being can be measured by life satisfaction (Ugur 2019, Zhang et al. 2017). Life satisfaction reflects an individual's endorsement of, or positive attitude towards one's life overall (George 2010, Michalos 2014). It is considered more stable and comprehensive than other evaluations of life such as domain-specific satisfaction (towards family,

work, health, finances) and happiness (George 2010). Subjective well-being has been explained and theorized with discrepancy theories, social comparisons approach, strategic investments of resources theory, social stratification theory and a social indicators approach (George 2010).

Discrepancy theories state that subjective well-being is the highest when the discrepancy between our aspirations and our achievements is small, while social comparisons research finds that the ‘yardstick’ by which we compare ourselves with others affects our assessments of our well-being. Stratification theory demonstrates that differential allocation of resources in society plays a critical role in shaping our subjective well-being, while a social indicators approach focuses on the relationship of community characteristics (measured at the aggregated level) with life satisfaction. Literature suggests that diverse factors are associated with life satisfaction, including age, sex, socioeconomic status, level of education, quality of social relationships and social support (marital status, ties with children and friends, intergenerational transfers), social integration (participation in religious/community/voluntary activities), residential location, physical and mental health, and psychological factors (George 2010). Studies tend to find a consistent relationship between life satisfaction and age. For instance, subjective well-being is comparatively higher at older ages (compared to middle age) despite declines in health and income among older adults. However, this paradox of well-being may not be true among the oldest old (George 2010, Zhang et al. 2017). Hence, the elderly need to be understood as a heterogeneous population. Though contextual and varying across the life course, scholars find an association between having children and sex composition of children with life satisfaction (or happiness) (Liu & Zhou 2019, Ugur 2019, Zhang et al. 2017). Social norms around acceptance of marriage, pronatalism, son preference and family structure in many regions in Asia also play a critical role (Yeung et al. 2018).

The family has long provided support to the elderly largely through co-residence. In many Asian countries, co-residence with children is declining and a greater proportion of the elderly are living alone and/or with spouse only (Hermalin 2002). Some reasons explaining this shift include higher levels of education and income, migration of children and shifting norms around marriage and family (Hermalin 2002, Raymo et al. 2015). In India too, we see a dramatic shift towards the elderly living alone and/or with spouse. For instance, Demographic and Health Survey data show that the percent elderly living alone has increased from 2.4 percent in 1993 to 5.0 in 2006 and the percent living with spouse only has increased from 6.6 percent to 13.7 percent in these years (Sathyanarayana et al. 2014). This is found in all major states. Even though co-residence with children is declining, support from children is a prominent source of support for elderly parents (Barik et al. 2017, Ugargol 2016). Further, elderly parents may not reside with children but may live in the same residential compound or near enough to have daily contact or be “quasi-co-resident”. In most of these contexts, institutional systems of care are discouraged and used as a last resort (Golondaj 2013, Jadhav et al. 2013, Siva Raju 2014). Intergenerational support remains strong.

Intergenerational support can be understood as transfers of support between generations, primarily parents and children. These can be long-term or short-term (Lei 2013). Support can be in the form of space (living arrangements), time (social contact, visits, childcare, help with daily activities), cash and material goods (Soldo & Hill 1993). Elderly parents also offer support to their children, though gifts, time (childcare), knowledge, emotional support, making key familial decisions and keeping the family together (Babu et al. 2018). Support can be made out of altruism or need, for ‘warm glow’ (giving out of personal pleasure) and also for exchange and as insurance. The theory of exchange assumes that people provide money or time in exchange for something else, while the insurance model posits that an investment is made with the possibility of needing it in the future. As in similar settings, the decrease in the average number of children each family has available for support combined with the increase in the average life expectancy, children will spend more years taking care of dependent elderly parents in India (Subaiya & Bansod 2014).

Further, the relationship between parents and children is mediated by contextually constructed gender norms. In India, as in other parts of Asia, bound by the kinship principle of patri-virilocality (wife residing with husband/husband’s family after marriage), sons and their wives are expected to co-reside with parents after marriage and provide old age support (Vatuk 1990). Cross-regional studies find that support from a child of a preferred gender significantly improves the emotional health of the elderly. For instance, in a comparative study of Southeast Asian countries, Teerawichitchainan et al. (2015), find that co-residence with the child of the preferred gender

significantly improves the emotional health of the elderly. Another study found that positive emotional health among Korean immigrants in the US was associated with having a daughter (than a son) living close by (Oh et al. 2017). The authors suggest an increasing importance of deriving benefits of emotional closeness from a daughter and a shift away from duty-based support received from sons and their wives. This bolsters the idea of social norm change in sex preference, as South Korea has witnessed a decline in strong son preference (Chung & Das Gupta 2007). Similarly, in urban China it has been found that married daughters offer more support to parents than married sons. Since monetary support offered by children to elderly parents is symbolic rather than to fulfill financial needs, parents take pride that their children have sent them financial transfers though they may not need it. These changes have been driven by changes in family relations and gender ideology, economic development, growing pension system, and broad demographic changes (Xie & Zhu 2009).

In certain parts of Asia where married sons and their wives are culturally expected to provide old age support, being 'sonless' is constructed a greater concern for old age than is being 'daughterless'. This could possibly exacerbate anxiety in old age (Patel 2007). Though a few studies in the Indian context find that elderly parents perceive daughters to be more reliable in offering old age care, feel closer to them and would depend on them for care (Jadhav et al. 2013, Patel 2007, Vatak 1990), son preference remains strong. Studies do find that in families with no sons, daughters tend to take up the traditional roles of sons (Lei 2013, Lin et al. 2004). Further, as fertility declines, the probability of having children of a specific gender declines. This also increases the chances that a family will not have a son but only daughters. For instance, if a couple desires two children, then the probability of having only daughters is 24 percent which increases to 49 percent among those who desire one child (Guilmoto 2009). With the possibility of such a paradox, I ask how the levels of life satisfaction among the elderly vary with the sex composition of living children. Arguing that son preference is strong in most regions in India, I hypothesize that elderly parents with only daughters experience lower life satisfaction compared to those who have at least one son.

## Methods

I use the Longitudinal Aging Study in India (LASI) to explore this relationship between gender composition of children and life satisfaction among the elderly. The LASI is a nationally-representative survey which examines aging and retirement in India. It has a harmonized design with parallel health and retirement surveys across the world. It is a joint undertaking of the Harvard T.H. Chan School of Public Health, the International Institute for Population Sciences (IIPS) in Mumbai, India, and the University of Southern California (USC). The first wave was conducted between 2017 to 2019 in 35 of India's 36 states and union territories and sampled 72,262 individuals aged 45 and above and their spouses irrespective of age. 46.3 percent of the sample comprises of individuals aged 60 or more. This paper draws on a sample of 29,964 non-institutionalized individuals aged 60 and older who have at least one living child. Those with no living children (3.8 percent) were dropped from the analysis. I also dropped cases in which the response to the number of children was missing (1 percent). I merged the household roster with the individual dataset to connect the background of co-resident children with the respondents. The weighted N is 113,608,515 individuals.

The dependent variable is an index of life satisfaction. It has been constructed from three sets of variables comprising of a total of seven questions. These questions were asked at different points in the survey and captured on different Likert scale points. In the beginning of the interview, respondents were asked their overall satisfaction in life on a five-point scale. Two additional sets of questions towards the end of the survey also ask for life satisfaction. These are: (a) five first-person questions on seven-point scales of agreement to a set of items (*life is close to ideal, conditions in my life are excellent, I am satisfied with my life, I have got the important things I want in life, if I could live my life again, I would change almost nothing*) and (b) one question on a four-point scale asking for the frequency of feeling satisfied within the last week. I created an index by adding up the scores to each of these questions to create a life satisfaction index ranging from 7 points to 44 points ( $5*1 + 7*5 + 4*1$ ). The five set of first-person question were moderately to highly correlated (correlation coefficients varying from 0.52 to 0.75). However, all three sets of variables were not well-correlated and exploratory analysis revealed that these did not load well on a 2-3 factors, hence I did not construct an index using exploratory factor analysis (Howry & Hand 2019, Pinto et al. 2016, Zhang et al. 2017). The main independent variable is sex composition of children. It takes both number and

gender of living children into account. It is used as a categorical variable in two different ways: (a) three-categories of sex composition which compare the number of daughters and sons (more, less or equal) and (b) three categories of families based single gendered sex composition of children (only sons/no daughters, and only daughters/no sons) and those with a mix of genders of children.

Besides socio-demographic factors, I control for the respondent's gender, marital status, place of residence (urban or rural), level of education, caste, religion and perceived social status in society. I also use factors associated with social support, such as co-residence with children, household composition, closeness with children, presence of siblings and closeness with friends and grandchildren. The association with factors of well-being was also explored. These include participation in social activities and decision-making, the importance of religion and self-rated health. Self-rated health has been recognized as a strong predictor of functional decline and mortality in old age and is considered as complementary to objective health evaluation (Pinto et al. 2016). Self-rated health was asked twice in the survey: once at the beginning and then at the end. Answers to both questions were moderately positively correlated, with the mean of the second question being higher. For this analysis I use the question which was asked at the beginning assuming that the response has not been glossed by answering other questions on social support, feelings and life satisfaction. I use perceived social status as an indicator of socioeconomic status. It has been measured by asking respondents which socioeconomic position they identify with if these were put on a 'ladder'. The ladder has 10 steps and respondents indicated where they would place themselves. The highest step represents people who are the most better off (since they have the most money, most education, and better jobs).

I analyzed the data in three steps. Firstly, I carried out descriptive and exploratory factor analysis (EFA) to find if there is a clustering of latent factors among those aspects of life which could be possibly associated with life satisfaction (Asaolu et al. 2018, Yong & Pearce 2013). This helped me identify if there are items with low loadings that can be eliminated in the construction of indices. For the second step, I carried out bivariate analysis between the possible covariates and life satisfaction. Based on the strength of association measured with correlation coefficients, tests of ANOVA and simple regression, I was able to decide which covariates to keep in the final model. For instance, I found that age was not significantly associated with life satisfaction, so I did not include it in the final model. Finally, I ran two linear regression models to predict the effect of gender composition of children on life satisfaction. Each model employs one of the two gender composition variables. Further, in model 2, I drop those variables which do not yield statistical significance in model 1. I use Tests of Variance Inflation Factor (VIF) to ensure that multicollinearity does not pose a problem in the final model.

## Findings

**Table 1: Background characteristics, weighted LASI data 2017-19, N= 29,964**

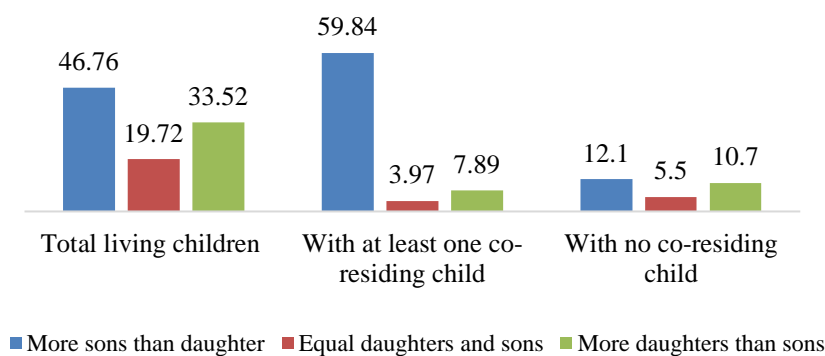
Mean age [range: 60-116]	69.1 ( $\pm 7.49$ )
<i>Gender: Female</i>	53.0
<i>Current marital status</i>	
Currently married/living with partner	63.0
Widowed	36.2
Separated/deserted/divorced	0.81
Never married	0.02
<i>Place of residence: Rural</i>	71.0
<i>Education</i>	
Never been to school	56.7
Not completed primary	11.5
Completed primary	11.2
Secondary/high school (12 <sup>th</sup> grade/diploma)	16.3
College education	4.0
<i>Caste</i>	
SC/ST	27.9
OBC	46.3
Other	25.8
<i>Religion</i>	
Hindu	82.6
Muslim	11.0
Christian	2.8
Sikh	2.0
Other (a few others have no religion)	1.6
Mean perceived social position in society [range: 1-10, 10 indicates higher]	4.3 ( $\pm 1.99$ )

**Note:**  $\pm$  indicates standard deviation (unweighted sample)

**Background of the elderly:** Table 1 shows the mean age of the sample is 69 years old. Eight percent are 80 years or older. Slightly more than half are women. Two thirds are currently married (including 0.5 percent who are living with a partner). A large proportion resides in rural areas. Only a third of the sample resides in urban areas. A substantial proportion have never been to school. Only a fifth have completed secondary or higher education. Similar to the caste composition of the country, a little less than half belong to the other backward classes (OBC), followed by scheduled castes (SC) and scheduled tribes (ST). The Scheduled Castes and Scheduled Tribes are the most marginalized communities and are guaranteed special reservations by the Indian Constitution (Mosse 2018). The OBC tend to be dominant in numbers and hold power at the local level. They have become politically active in appealing for government benefits based on their socioeconomic backwardness (Mosse 2018). The ‘other’ caste category largely includes those castes that claim to be at the higher end of the ritual/social hierarchy, sometimes referred to as ‘forward’ castes. This category also includes a small proportion of those who do not adhere to any caste or tribe (3 percent). Perceptions of caste category vary at the local level and may or may not overlap with religion. The data also show that composition by religion is similar to that at the national level, with large majority of Hindus, followed by Muslims, and Christians and Sikhs and others.

**Household/family characteristics, gender composition of children and social support:** The mean number of household members is five (Table 2). Around 5 percent are one person households while 18 percent are two-person households. Another 10 percent each are three person and four person households. The mean number of living children slightly less than 4, while the mean number of children ever is 4.6. This indicates that families have lost children, mostly when they were either very young due to higher infant mortality at that time, or when their children reached late-middle age. Gender composition of children indicates son preference. For instance, the mean number of living sons is more than the mean number of living daughters. Around twice of the respondents (17 percent)

**Figure 3: Sex composition of living children by type of residence of children, weighted LASI data [percentages do not add to 100 indicating not applicable responses]**



have only sons, compared to 8 percent who have only daughters. A greater proportion of families have more sons than daughters, followed by more daughters than sons, irrespective of co-residence with children (Figure 3). Few have an equal number of daughters and sons. This could be due to the acceptance of larger families and limited implementation of son preference with sex-selective abortion or contraceptive stopping behavior (Bongaarts 2013). Larger families are less likely to have

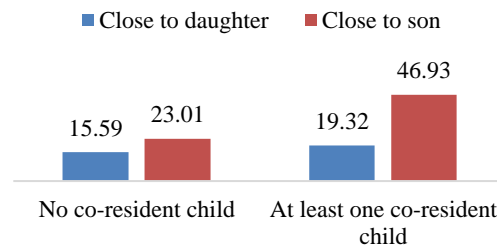
an equal number of daughters and sons. For a large proportion, at least one child resides with them (72 percent), largely son(s). However, the age and marital status of children in these families greatly varies. Around 13 percent are aware of the Maintenance and Welfare of Parents and Senior Citizens Act 2007, which makes it obligatory for children, irrespective of their gender, to care for their elderly parents (MOSPI 2016, Uberoi 2005; not shown).

It is not surprising that most have at least one sibling, given that fertility had been higher when this cohort was growing up. One-child families are still not a norm. The elderly have a close relationship with a few number of people, largely with one’s spouse and son(s) as mentioned by 58 percent and 43 percent respectively. Fewer are close to daughters (17 percent) and daughters in-law (13 percent) and grandchildren. This reflects the dominant form of the kinship structure, which is based on patriliney and patrilocality (Das Gupta et al. 2003, Dyson & Moore 1983, Karve 1993). It increases closeness with sons, and perhaps reduces the chances with bonding with one’s daughter as shown in Figure 4. Further, it increases the chances of closeness with one’s daughter(s) in-law,

compared to one's son(s) in-law. However, for a fair proportion (53 percent) who co-reside with their children, they do not report closeness with sons. A quarter report that they have friends, among which the average number of close friends is two. Around 39 percent have one close friend, 33 percent have two close friends and 14 percent have three close friends. Almost all have grandchildren and but less than 20 percent look after their grandchildren. The average number of grandchildren is around 9.

Very few report being ill-treated in the past year (5 percent) or ever feeling discriminated in different everyday situations (6-11 percent) (not shown). The latter include being treated with less courtesy, receiving poorer services, being threatened and feeling that others judge you.

**Figure 4: Closeness with daughters and sons by co-residence with children, weighted LASI data**



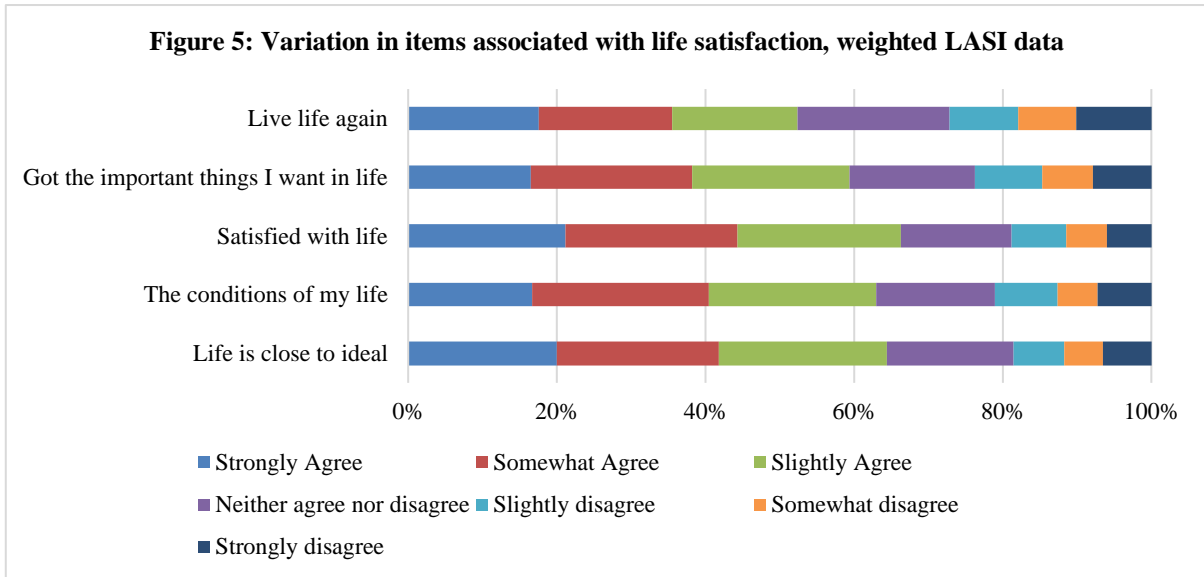
**Table 2: Indicators of family composition and social support, weighted LASI data 2017-19, N= 29,964**

Mean number of household members [range 1-35]	5.0 ( $\pm 2.76$ )
Mean number of children ever had [range: 1-16]	4.6 ( $\pm 2.27$ )
Mean number of currently living children [range: 1-19]	3.9 ( $\pm 1.88$ )
Mean number of currently living daughters [range: 1-10]	1.8 ( $\pm 1.41$ )
Mean number of currently living sons [range: 1-10]	2.1 ( $\pm 1.30$ )
Percent with no co-residing children	28.3
Percent families with only daughters	7.6
Percent families with only sons	17.3
Percent families with a mix of genders of children	75.2
Have siblings	90.9
Mean number of people one has a close relationship with [range: 0-10]	1.5 ( $\pm 1.13$ )
<i>Have a close relationship with (row percentage):</i>	
Spouse	57.8
Son	42.8
Daughter	16.7
Daughter in-law	12.5
Son in-law	2.2
Grandchildren	8.9
Brother	5.4
Sister	5.2
Has friends	25.9
Mean number of close friends (among those who have friends) [range: 1-20; N=8,966]	2.3 ( $\pm 1.77$ )
Has grandchildren	95.0
Mean number of grandchildren	8.5 ( $\pm 6.23$ )
Looks after grandchildren (among those who have grandchildren)	19.0

**Note:**  $\pm$  indicates standard deviation (unweighted sample)

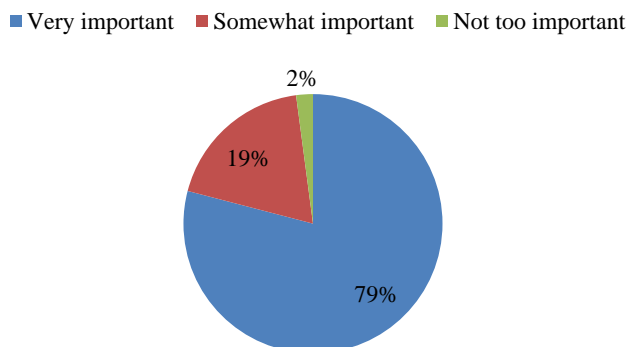
**Subjective well-being and healthy participation:** Figure 5 shows the responses to the set of five first-person questions which were used to construct the index of life satisfaction. Besides these, answers to two more questions were also used for the index but varied in their scale (four and five-point scales) and are not shown here. The figure shows that there is quite a variation in life satisfaction. This was also seen in the two other reports of life satisfaction, and in other aspects of subjective well-being such as feeling happy, hopeful, finding meaning, feeling grateful, selfless, finding inner peace and seeing beauty in life. Respondents were also asked about how they felt in the

past one week, including the ability to concentrate, feel energized or feel depressed. Correlation with the dependent variable revealed that these were not statistically significant at  $p < 0.05$  and were not used in the final analysis.



At this stage of life when participation in the economy and in social life is either restricted by internal or external barriers, the level of participation in the household, in one's life and in decision-making becomes critical for well-being. Data in Table 3 suggest that the elderly have the potential to participate more fully in their family, such as in household activities (cooking, shopping for household items, paying bills and household chores) and in making decisions. While the number of household activities one participates in is not very high (around 3 out of 7), a large proportion are involved in decision-making, either alone or jointly with their family members (such as those related to a family member's marriage, property, gift giving, education and organizing social events). Respondents were also probed on their participation in different activities such as eating out, going out for relaxation, playing indoor games, attending cultural performances, reading books, attending political/community meetings, watching TV, using the Internet, visiting family and friends and playing outdoor games/doing yoga. I found that frequent participation in these activities was quite low. Only a slightly higher proportion expressed that they go outdoors for exercise/yoga/sports (14 percent) and/or visit relatives/friends at least once a year (30 percent).

**Figure 6: Importance of religion, weighted LASI data**



While a substantial proportion of the elderly are satisfied with their current living arrangement, a fourth are neutral or not satisfied with it. In most cases, the decision regarding the current living arrangement has been made by any of the spouses (77 percent), followed by sons (15 percent). In around 2 percent of the cases, the respondent's father made the decision about the current living arrangement. Religion is specifically important to this cohort. Almost all respondents regard it to be somewhat or very important (Figure 6).

**Table 3: Summary of indicators of subjective well-being and healthy participation, weighted LASI data 2017-19, N= 29,964**

	Mean	S.D.	Range
Life satisfaction <sup>^</sup>	29.6	±7.84	7 - 44
Positive feelings <sup>^</sup>	23.7	±4.07	7 - 28
Meaning <sup>^</sup>	10.6	±4.81	4-20
Happiness <sup>^</sup>	4.6	±1.65	2-8
Self-rated health at the beginning of the interview <sup>^</sup>	2.6	±0.99	1-5
Self-rated health at the end of the interview <sup>^s</sup>	3.1	±0.86	1-5
Number of household activities one participates in <sup>^</sup>	2.9	±1.51	1-7
Number of decisions one participates in <sup>^</sup>	4.6	±1.21	0-5
Frequency of going outdoors <sup>^</sup>	0.4	±1.32	0-6
Frequency of visiting relatives/friends <sup>^</sup>	1.7	±1.52	0-6
Percent satisfied with current living arrangement	75.4		
Decision-maker for current living arrangement: self or spouse (percent)	77.0		
Decision-maker for current living arrangement: son (percent)	15.2		

**Notes:** ± indicates standard deviation (unweighted sample);

<sup>^</sup> Higher score indicates more positive/better experience

<sup>s</sup> Self-rated health at beginning and end of interview are correlated (coefficient: 0.66)

**Table 4: Bivariate relationship between gender composition of children and life satisfaction and self-rated health, weighted LASI data 2017-19, N= 29,964**

	Mean life satisfaction [range: 7 - 44]	Mean self-rated health [range: 1 - 5]
<b>Composition by number of living children</b>		
More sons than daughters	29.6	2.60
Equal number of daughters and sons	29.6	2.61
More daughters than sons	29.4	2.58
<i>Bivariate test, sig. level</i>	<i>F-test, p-value not sig.</i>	<i>F-test, p-value not sig.</i>
<b>Families with single gender composition</b>		
Mix of genders	29.6	2.59
Only daughters	28.6	2.56
Only sons	29.9	2.62
<i>Bivariate tests, sig. level</i>	<i>F-test, p&lt;0.001<sup>^</sup></i>	<i>F-test, p-value not sig.</i>
<b>Composition by co-residence of children</b>		
No co-resident child	28.9	2.55
At least one co-resident child	29.8	2.61
<i>Bivariate test, sig. level</i>	<i>Z-test two-tailed, p&lt;0.001</i>	<i>Z-test two-tailed, p&lt;0.001</i>

**Notes:** Higher score indicates greater life satisfaction/perception of good health.

<sup>^</sup>Bonferroni post hoc test: Significant (p<0.001) difference between those (a) with only daughters and mix of genders and between (b) only daughters and only sons.

**Gender composition of children and well-being:** Since life satisfaction and self-rated health emerge as widely correlated factors with other aspects of life, I use these for bivariate and multivariate analysis. Although Table 4 shows that the sex composition of children is not significantly associated with life satisfaction (p<0.001), the presence of a son and/or co-residence with children does make a difference to life satisfaction scores. For instance, those with at least one son have a slightly higher life satisfaction score compared to those with no son, but the difference is statistically significant (F-test, p<0.001). Further, those with at least one co-resident child have higher life satisfaction and self-rated health scores compared to those with no co-resident child (Z-test, p<0.001).

**Life satisfaction driven by broader social factors:** Multivariate regression analysis reveals that life satisfaction is influenced largely by broader social factors, beyond gender composition of children (Table 5). The factors most strongly and significantly associated with life satisfaction are education level, self-rated health and the perception of the importance of religion. These are closely followed by perceived position in society, place of residence and the presence of siblings. Model 1



shows that when all predictors are kept constant, gender composition of living children does not seem to have a significant influence on life satisfaction compared to co-residence with children. However, in model 2, the effect of co-residence diminishes when families do not have any sons. Those with only daughters are less likely to express higher life satisfaction (coefficient: 0.743,  $p < 0.001$ ). Hence, the presence of at least one son is associated with higher life satisfaction, irrespective of co-residence with son(s).

The influence of education on life satisfaction increases significantly with each level completed. Membership in marginalized communities decreases life satisfaction. As mentioned earlier, almost all respondents find religion to be of importance in their life and that is good news, since the more likely one perceives religion to be of importance, the higher they score on life satisfaction. Self-rated health comes across as the most influential marker of life satisfaction. The more one feels healthier, they are likely to be satisfied. This goes above and beyond the effects of education and the importance of religion. Social networks and connections such as the number of family members one is close with, presence of a sibling and friends do not have the strongest influence, even though some of these play a statistically significant role in increasing the chances of experiencing life satisfaction.

**Table 5: Results from regression analysis of life satisfaction and self-rated health, LASI 2017-19**

<i>Dependent variable: Life satisfaction</i>	Model 1, coefficients		Model 2, coefficients	
<i>More sons than daughters</i>				
Equal number of daughters and sons	-0.141			
More daughters than sons	-0.062			
<i>Mix of genders</i>				
Only daughters			-0.743	***
Only sons			0.010	
At least one co-resident child	0.294	**	0.189	
Female	0.299	**	0.173	
<i>Married</i>				
Widowed	-0.339	**		
Divorced/separated	-0.458			
Never married	-3.589			
<i>Rural</i>				
Urban	0.408	***	0.407	***
<i>Not been to school</i>				
Not completed primary	0.751	***	0.798	***
Completed primary	0.690	***	0.745	***
Completed secondary/high	1.196	***	1.292	***
Completed beyond high school	1.922	***	2.080	***
<i>Other caste/community</i>				
OBC	-0.480	***	-0.469	***
SC/ST	-0.442	***	-0.395	**
Perceived position in society	0.989	***	0.996	***
<i>Self-rated health: score 1</i>				
2	1.823	***	1.838	***
3	2.771	***	2.809	***
4	2.945	***	2.986	***
5	4.575	***	4.592	***
<i>Religion is very important</i>				
Somewhat	-1.916	***	-1.912	***
Not too important	-2.558	***	-2.550	***
Total number of family members one is close to	0.379	***	0.392	***
Has siblings	0.612	***	0.619	***
Has friends	0.324	**		
<i>Constant</i>	21.726		21.714	
<i>Percent explained (R2)</i>	14.85 percent		14.84 percent	

## Discussion

My study explores the relationship between gender composition of children and life satisfaction among the elderly in India. Macro and micro-level studies consistently show that sons are preferred over daughters in most patrilineal communities in Asia. Sons and their wives are expected to offer care during old age, and daughters are discouraged to offer help after marriage. Norms of patriliney are strong, and social security systems for the elderly are limited. Further, a large proportion are based in rural areas and dependent on agriculture which increases the dependence on sons and decreases access to healthcare unlike that in urban areas (Chun & Das Gupta 2021). I use the first wave of the Longitudinal Aging Study in India (LASI), 2017-19 to test if elderly parents with only daughters experience lower life satisfaction compared to those who have at least one son. I find that although the number of sons is not statistically associated with life satisfaction, the presence of at least one son and/or co-residence with children does increase the chances of feeling satisfied in life. Families with no sons are likely to experience less life satisfaction followed by those with no co-residing children. Son preference is also visible in other ways. For instance, families tend to have more sons and daughters, a greater proportion have only sons (compared to only daughters) and a greater proportion are closer to sons than to daughters.

However, after controlling for socioeconomic background, social support and other indicators of well-being, the influence of gender composition of children declines. Life satisfaction among the elderly tends to be associated with broader structural and cultural expectations which are part of the Indian society. For instance, education is an important marker of social status and accords privilege and increased access to the economic sector. One's perceived social status and caste belonging are also indicative of social status and have significant association. Feeling that one belongs to the lower segment of society or to marginalized communities decreases life satisfaction. The more one perceives religion to be important the more likely they are to feel satisfied in life. This reiterates the need to appreciate and study how religion and spirituality have been part of the Indian fabric for centuries and played a role in shaping perceptions towards aging, above and beyond individual and familial level experiences. Self-rated health emerges as the strongest predictor of life satisfaction, and urges us to ask how perceptions towards one's health are shaped from actual health experiences and socialization since childhood.

My study has implications for policy and sociological/demographic research. Policies aiming to improve the well-being of the elderly firstly need to focus on guaranteeing basic needs which improve human capabilities and contribute to overall social economic development, such as those which alleviate poverty, sustain livelihoods, increase access to healthcare and higher levels of education. Increasing access to education is associated with less dependence on sons for social status and financial support and greater reception to modern ideas like gender equality (Asadullah et al. 2021, Das Gupta 2001, Drèze & Murthi 2001.). Secondly, they need to extend these to the most marginalized and least educated and recognize that social identities are cross-cutting. Thirdly, development discourse needs to address social and economic inequalities and perceptions of hierarchy entrenched in the Indian social fabric. Fourthly, while religion has been a widely contested issue in our plural society, providing local level community or family-based spiritual events could improve the well-being of the elderly.

Fifthly, the state can create a supportive environment for equitable gender preferences. There needs to be greater awareness of legal provisions such as the amendment in the Hindu Succession Act 2005 which gives daughters the right to inherit property and the Maintenance and Welfare of Parents and Senior Citizens Act 2007 which makes it obligatory for children, irrespective of their gender, to care for their elderly parents (Uberoi 2005). The association between sons and old age support needs to be reconsidered in public discourse. Especially since with fertility decline, many families will have fewer children including one child; and/or daughter-only families. Further, with one or few sons, they may migrate or choose to reside separately with their conjugal family, leaving no co-resident children. While campaigns/messages in India are highlighting the value of daughters, they aim at ensuring that girls are born and educated. They do not move through the life course of women. Campaigns and messages for the public should highlight that married/adult daughters have the potential to offer support to their elderly parents, irrespective of the presence of sons. Studies confirm that parental gender bias decreases when they see that their daughters are financially independent (Fong 2002, Clark 2016, Pandey & Bhatia 2014). They see that their daughters have ability to contribute to their

natal families and reside closer to them after marriage (Childs et al. 2011, Fong 2002, Lin et al. 2003, Xie & Zhu 2009). Close residence with financially independent daughters can also weaken parental dependence primarily on sons (Chun & Das Gupta 2021, Oh et al. 2017, Xie & Zhu 2009).

There are also a few methodological issues to consider. Firstly, intergenerational support is found without co-residence. Elderly parent(s) may live in the same residential compound or near enough to have daily contact or be “quasi-co-resident” (Hermalin 2002). This is not addressed in my work. Institutional systems of care are discouraged and used as a last resort and these strong perceptions around aging in the Indian context need to be considered by researchers (Golondaj 2013, Jadhav et al. 2013, Siva Raju 2014). Secondly, it is not clear if self-rated health influences life satisfaction or if those who show greater propensity to higher life satisfaction tend to see their health more positively. Although both are subjective indicators, people’s perception are critical for their well-being. Thirdly, since I argue that perceptions around aging are shaped by concrete factors and social norms than by individual and familial-level ties and emotions, I ask for a shift in our analytical lens. We need to include the study of the macro in micro-level empirical research.

Some research needs also emerge. Firstly, we need more understanding of the role of sons in-law. The social structure seldom offers an opportunity for a daughter’s husband to contribute to the family unlike in the case of daughters in-law. A man who demonstrates greater involvement and participation in his wife’s family is ‘joked’ upon in popular culture/media. In a context where men have more power than women, the role of sons in-law in encouraging or discouraging their wives to offer support to their natal family remains unclear. Secondly, although, marital status did not appear as a significant determinant to life satisfaction, one’s spouse continues to be the family member most are closest to. However, with increasing life expectancy among women and widowhood, research on the implications of living in such households could provide insights to how the family adapts. Thirdly, the behavior of younger cohorts will also provide insight to how the family structure adapts. For instance, are younger cohorts more accepting of a family without sons? How will their children perceive old age with few or no siblings? Cross-regional studies find that families are aware of and adapt to changing socio-economic and demographic conditions such as changing gender ideology, smaller family size, out-migration of children, increased financial security, and state interest in extending social security for the elderly (Childs et al. 2011, Hermalin 2002, Knodel et al. 2013, Xie & Zhu 2009). My research is a work in progress. I will also be exploring the types of households, demographic characteristics of co-resident children (age, marital status, level of education), widening the age sample (including those who are aged 45 to 59), analyzing couples as a unit, and comparing life satisfaction by number of children (zero or more).

## References

- Asadullah, M. N., Mansoor, N., Randazzo, T., & Wahhaj, Z. (2021). Is son preference disappearing from Bangladesh? *World Development*, 140(2021), 105353.
- Asaolu, I. O., Alaofè, H., Gunn, J. K., Adu, A. K., Monroy, A. J., Ehiri, J. E., ... & Ernst, K. C. (2018). Measuring women's Empowerment in sub-Saharan Africa: exploratory and confirmatory factor analyses of the demographic and health surveys. *Frontiers in psychology*, 9, 994.
- Babu, N., Hossain, Z., Morales, J.E., & Vij, S. (1996). Grandparents in Bangladesh, India, and Pakistan: A way forward with tradition and changes in South Asia In D.W. Shwalb & Z. Hossain (Eds.), *Grandparents in cultural context*. New York: Routledge.
- Barik, D., Agrawal, T., & Desai, S. (2017). After the dividend: Caring for a greying India. In *Elderly Care in India* (pp. 37-52). Springer, Singapore.
- Childs, G., Goldstein, M. C., & Wangdui, P. (2011). Externally-resident daughters, social capital, and support for the elderly in rural Tibet. *Journal of Cross-Cultural Gerontology*, 26(1), 1-22.
- Chun, H., & Das Gupta, M. (2021). ‘Not a bowl of rice, but tender loving care’: From aborting girls to preferring daughters in South Korea. *Asian Population Studies, ahead-of-print*, 1-21.
- Chung, W., & Das Gupta, M. (2007). The decline of son preference in South Korea: The roles of development and public policy. *Population and Development Review*, 33(4), 757–783.
- Clark, A.W. (2016). *Valued daughters: First generation career women*. New Delhi: Sage Publications.
- Das Gupta, M., Zhenghua, J., Bohua, L., Zhenming, X., Chung, W. & Hwa-Ok, B. (2003). Why is son preference so persistent in East and South Asia? A cross-country study of China, India and the Republic of Korea. *The Journal of Development Studies*, 40(2), 153-187.

- Das Gupta, M. (2001). Synthesizing diverse interpretations of reproductive change in India. In Z.A. Sathar & J.F. Phillips (Eds.), *Fertility transition in South Asia* (pp. 203-220). Oxford: Oxford University Press.
- Drèze, J. & Murthi, M. (2001). Fertility, education, and development: Evidence from India. *Population and Development Review*, 27(1): 33-63.
- Dyson, T. & Moore, M. (1983). On kinship structure, female autonomy, and demographic behavior in India. *Population and Development Review*, 9(1), 35–60.
- Fong, V.L. (2002). China's one-child policy and the empowerment of urban daughters. *American Anthropologist*, 104(4), 1098- 1109.
- George, L. K. (2010). Still happy after all these years: Research frontiers on subjective well-being in later life. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 65(3), 331-339.
- Golandaj, J.A., Goli, S., & Chandra Das, K. (2013). Living arrangements among older population and perceptions on old age assistance among adult population in India. *International Journal of Sociology and Social Policy*, 33(5/6), 367–379.
- Guilmoto, C. Z. (2009). The sex ratio transition in Asia. *Population and Development Review*, 35(3): 519-549.
- Guilmoto, C. Z. (2016). The past and future of fertility change in India. In C. Z. Guilmoto & G. W. Jones (Eds.), *Contemporary demographic transformations in China, India and Indonesia* (pp. 113–132). Cham: Springer International Publishing.
- Hermalin, A. I. (Ed.). (2002). *The well-being of the elderly in Asia: A four-country comparative study*. University of Michigan Press.
- Hershman, P. (1981). *Punjabi kinship and marriage*. Delhi: Hindustan Publishing Corporation.
- Howrey, B. T., & Hand, C. L. (2019). Measuring social participation in the health and retirement study. *The Gerontologist*, 59(5), e415-e423.
- Jadhav, A., Sathyanarayana, K.M., Kumar, S. & James, K.S. (2013). *Living arrangements of the elderly in India: who lives alone and what are the patterns of familial support?* Paper presented at the annual meeting of the Population Association of America, New Orleans, LA (April 11-13).
- Karve, I. (1993). The kinship map of India. In P. Uberoi (Ed.), *Family, kinship and marriage in India* (pp. 50-73). Delhi: Oxford University Press.
- Lei, L. (2013). Sons, daughters, and intergenerational support in China. *Chinese Sociological Review*, 45(3), 26–52.
- Lin, I. F., Goldman, N., Weinstein, M., Lin, Y. H., Gorrindo, T., & Seeman, T. (2003). Gender differences in adult children's support of their parents in Taiwan. *Journal of Marriage and Family*, 65(1), 184-200.
- Lin, I. F., Goldman, N., Weinstein, M., Lin, Y. H., Gorrindo, T., & Seeman, T. (2004). Gender differences in adult children's support of their parents in Taiwan. *Journal of Marriage and Family*, 65(1), 184-200.
- Liu, J., & Zhou, Z. (2019). Mothers' subjective well-being after having a second child in current China: A case study of Xi'an city. *International Journal of Environmental Research and Public Health*, 16(20), 3823.
- Michalos, A.C. 2014. Life satisfaction. In Michalos, A.C. (Ed.), *Encyclopedia of quality of life and well-being*. [https://doi.org/10.1007/978-94-007-0753-5\\_102268](https://doi.org/10.1007/978-94-007-0753-5_102268)
- Moser, C., Spagnoli, J., & Santos-Eggimann, B. (2011). Self-perception of aging and vulnerability to adverse outcomes at the age of 65-70 years. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 66B(6), 675–680.
- Mosse, D. (2018). Caste and development: Contemporary perspectives on a structure of discrimination and advantage. *World Development*, 110, 422-436.
- Oh, H., Ardelt, M., & Koropecj-Cox, T. (2017). Daughters' generation: The importance of having daughters living nearby for older Korean immigrants' mental health. *Journal of Family Issues*, 38(16), 2329-2345.
- Oh, H., Ardelt, M., & Koropecj-Cox, T. (2017). Daughters' generation: The importance of having daughters living nearby for older Korean immigrants' mental health. *Journal of Family Issues*, 38(16), 2329–2345.
- Pandey, S. & Bhatia, M. (2017). New meanings of motherhood in globalizing middle-class homes. In M. Bhatia (Ed.), *Locating gender in the new middle class in India* (pp. 59-75). Shimla: Indian Institute of Advanced Study.
- Patel, T. (2007). The mindset behind eliminating the female foetus. In T. Patel (Ed.), *Sex-selective abortion in India: Gender, society and new reproductive technologies* (pp. 135-174). New Delhi: Sage Publications.
- Pinto, J. M., Fontaine, A. M., & Neri, A. L. (2016). The influence of physical and mental health on life satisfaction is mediated by self-rated health: A study with Brazilian elderly. *Archives of gerontology and geriatrics*, 65, 104-110.
- Population Reference Bureau (PRB). (2020). Aging. Retrieved from <https://www.prb.org/aging/>
- Raymo, J.M., Park, H., Xie, Y., & Yeung, W.J.J. (2015). Marriage and family in East Asia: Continuity and change. *Annual Review of Sociology*, 41, 471-492.

- Sathyanarayana, K. M., Kumar, S., & James, K. S. (2014). Living arrangements of elderly in India: Policy and programmatic implications. In G. Giridhar, K. M. Sathyanarayana, S. Kumar, K. S. James, & M. Alam (Eds.), *Population ageing in India* (pp. 74–95). New York: Cambridge University Press.
- Siva Raju, S. (2014). Living arrangements of elderly in India: Policy and programmatic implications. In G. Giridhar, K. M. Sathyanarayana, S. Kumar, K. S. James, & M. Alam (Eds.), *Population ageing in India* (pp. 180–213). New York: Cambridge University Press.
- Sixsmith, J., Sixsmith, A., Fänge, A. M., Naumann, D., Kucsera, C., Tomsone, S., Haak, M., Dahlin-Ivanoff, S. & Woolrych, R. (2014). Healthy ageing and home: The perspectives of very old people in five European countries. *Social Science & Medicine*, 1982(106), 1–9.
- Soldo, B.J., & Hill, M.S. (1993). Intergenerational transfers: Economic, demographic, and social perspectives. *Annual Review of Gerontology and Geriatrics*, 13, 187-216.
- Subaiya, L & Bansod, D.W. (2014). Demographics of population ageing in India. In G. Giridhar, K. M. Sathyanarayana, S. Kumar, K. S. James, & M. Alam (Eds.), *Population ageing in India* (pp. 1-41). New York: Cambridge University Press.
- Teerawichitchainan, B., Knodel, J., & Pothisiri, W. (2015). What does living alone really mean for older persons? A comparative study of Myanmar, Vietnam, and Thailand. *Demographic Research*, 32(48), 1329–1360.
- Uberoi, P. (2005). The family in India: Beyond the nuclear versus joint debate. In M. Khullar, *Writing the Women's Movement: A Reader* (pp. 361–396). New Delhi: Zubaan Books.
- Ugargol, A. P., Hutter, I., James, K. S., & Bailey, A. (2016). Care needs and caregivers: Associations and effects of living arrangements on caregiving to older adults in India. *Ageing international*, 41(2), 193-213.
- Ugur, Z.B. Does having children bring life satisfaction in Europe? (2020). *Journal of Happiness Studies*, 21(4), 1385–1406. <https://doi.org/10.1007/s10902-019-00135-5>
- United Nations (UN). 2019. The World Population Prospects: 2019 Revision. New York: UN.
- Vatuk, S. (1990). To be a burden on others. In O. M. Lynch, *Divine passions: The social construction of emotion in India* (pp. 64–91). University of California Press.
- Wurm, S., & Benyamini, Y. (2014). Optimism buffers the detrimental effect of negative self-perceptions of ageing on physical and mental health. *Psychology & Health*, 29(7), 832–848.
- Xie, Y., & Zhu, H. (2009). Do sons or daughters give more money to parents in urban China? *Journal of Marriage and Family*, 71(1), 174–186.
- Xie, Y., & Zhu, H. (2009). Do sons or daughters give more money to parents in urban China? *Journal of Marriage and Family*, 71(1), 174–186.
- Yeung, W.J. J., Desai, S., & Jones, G. W. (2018). Families in Southeast and South Asia. *Annual Review of Sociology*, 44(1), 469–495.
- Yong, A. G., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in quantitative methods for psychology*, 9(2), 79-94.
- Zhang, W., Braun, K. L., & Wu, Y. Y. (2017). The educational, racial and gender crossovers in life satisfaction: Findings from the Longitudinal Health and Retirement Study. *Archives of gerontology and geriatrics*, 73, 60-68.