Parenthood and depression of older adults in China: are the sonless similar to the childless?

Supplementary material

1. The results presented in Model 1 and Model 2 in the main text are not sensitive to gender, as when an interaction between parental status and gender is introduced there are no differences between the childless and only daughter groups. Results shown below in Table A, Model A1.
2. The results presented in Model 1 and Model 2 in the main text are not sensitive to age, as when an interaction between parental status and age is introduced it seems that differences between groups exist (Model A2), but plotting the results shows that the confidence intervals overlap and only the oldest childless are more depressed than the rest. Results shown below in Table A, Model A2 and Figure A1.
3. The results presented in Model 1 and Model 2 in the main text are not sensitive to marital status, as when an interaction between parental status and marital status is introduced there are no differences between groups, results shown below in Table A, Model A3.
4. The results are robust for all models in the main text (Model 1-3) when the group of rural childless with urban hukou (5.7%) is removed from the sample, the associations remain and become stronger with larger coefficients.
5. Figure A2 shows the marginal effects of the interaction between parental status and residence with 95 per cent CI in a sample that excludes single child parents. The rresults still support Hypothesis 3 that expected that the difference in the prevalence of depressive symptoms would be greater between the childless and parents amongst those with rural residence. The difference is that that older adults with only daughters are not more disadvantaged in rural areas compared to the urban parents of only daughters.
6. Descriptive statistics for the overall distribution of the respondents over provinces are shown in Table B.

Figure A1



Figure A2

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| Table A. Robustness checks |
|  | Model A1 | Model A2 | Model A3 |
|  | b | SE | b | SE | b | SE |
| Age  | 0.982\*\* | 0.304 | 1.057\*\*\* | 0.306 | 0.982\*\* | 0.305 |
| Age quadratic | -0.007\*\*\* | 0.002 | -0.008\*\*\* | 0.002 | -0.007\*\* | 0.002 |
| Gender | 1.413\*\*\* | 0.244 | 1.365\*\*\* | 0.197 | 1.141\*\*\* | 0.195 |
| Not married | 1.036\*\*\* | 0.236 | 1.032\*\*\* | 0.235 | 0.960\*\*\* | 0.288 |
| Education (ref: illiterate/Semiliterate) |  |  |  |
| Primary | -0.681\*\* | 0.245 | -0.691\*\* | 0.244 | -0.687\*\* | 0.244 |
| Secondary | -1.067\*\*\* | 0.284 | -1.107\*\*\* | 0.283 | -1.059\*\* | 0.284 |
| Household income log (BRI) | 0.070 | 0.078 | -0.067 | 0.078 | -0.074 | 0.079 |
| IADL | 1.032\*\*\* | 0.081 | 1.037\*\*\* | 0.081 | 1.031\*\*\* | 0.081 |
| Some pension ins | -0.460\* | 0.213 | -0.467\* | 0.213 | -0.464\* | 0.213 |
| Not Han Ethnicity (Other) | 0.443 | 0.394 | 0.466 | 0.394 | 0.461 | 0.395 |
| Retired | 0.006 | 0.325 | 0.034 | 0.325 | -0.005 | 0.325 |
| Residence (ref: rural) |  |  |  |  |
| Urban | -1.209\*\*\* | 0.310 | -1.321\*\*\* | 0.311 | -1.224\*\*\* | 0.310 |
| Rural migrant | 1.018\*\*\* | 0.262 | -1.008\*\*\* | 0.262 | -1.040\*\*\* | 0.260 |
| Religious | 0.489 | 0.308 | 0.451 | 0.308 | 0.497 | 0.309 |
| Does not own home | 0.844\* | 0.272 | 0.796\*\* | 0.271 | 0.835\*\* | 0.272 |
| Parental status (ref: sons and daughters) |  |  |  |
|  Only daughters | 0.419 | 0.437 | 9.481\*\* | 3.374 | 0.854\* | 0.365 |
|  Only sons | 0.899\*\* | 0.272 | 3.108 | 2.280 | 0.629\* | 0.253 |
|  Childless | 2.137\*\* | 0.672 | 22.582\*\*\* | 5.387 | 0.678 | 0.805 |
| Parental status\*Gender |  |  |  |  |
|  Only daughters # Female | 0.883 | 0.623 |  |  |  |  |
|  Only sons # Female | -0.397 | 0.436 |  |  |  |  |
|  Childless # Female | -2.523 | 1.173 |  |  |  |  |
| Parental status\*Age |  |  |  |  |  |
|  Only daughters # Age |  | -0.129\* | 0.050 |  |  |
|  Only sons # Age |  | -0.043 | 0.033 |  |  |
|  Childless # Age |  | -0.309\*\*\* | 0.078 |  |  |
| Parental status\*marital status |  |  |  |  |
|  Only daughters # Not married |  |  | 0.116 | 0.763 |
|  Only sons # Not married |  |  | 0.378 | 0.533 |
|  Childless # Not married |  |  | 1.224 | 1.112 |
| Intercept | -19.470 | 10.702 | -23.138\* | 10.802 | -19.357 | 10.747 |
| Observations | 6022 |  | 6022 |  | 6022 |  |
| R-squared | 0.101 |  | 0.103 |  | 0.133 |  |

Notes: Data weighed for national sample representability. Estimates include province fixed effects, coefficients omitted in table. \*p < .05. \*\*p <.01. \*\*\*p < .001.

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| Table B. Socio-demographic information on the distribution of respondents by provinces |  |  |
| Province | n | % |  |
| Beijing | 46 | 0.76 |  |
| Tianjin | 35 | 0.58 |  |
| Hebei | 312 | 5.18 |  |
| Shanxi | 212 | 3.52 |  |
| Liaoning | 622 | 10.33 |  |
| Jilin | 95 | 1.58 |  |
| Heilongjiang | 176 | 2.92 |  |
| Shanghai | 688 | 11.42 |  |
| Jiangsu | 134 | 2.23 |  |
| Zhejiang | 63 | 1.05 |  |
| Anhui | 99 | 1.64 |  |
| Fujian | 72 | 1.2 |  |
| Jiangxi | 92 | 1.53 |  |
| Shandong | 309 | 5.13 |  |
| Henan | 738 | 12.26 |  |
| Hubei | 94 | 1.56 |  |
| Hunan | 221 | 3.67 |  |
| Guangdong | 472 | 7.84 |  |
| Autonomous Region | 91 | 1.51 |  |
| Chongqing | 90 | 1.49 |  |
| Sichuan | 319 | 5.3 |  |
| Guizhou | 221 | 3.67 |  |
| Yunnan | 115 | 1.91 |  |
| Shaanxi | 120 | 1.99 |  |
| Gansu | 586 | 9.73 |  |
| N (total) | 6022 | 100 |  |