

As the birth rate declines and life expectancy increases, the aging of the population in China is gradually accelerating. The rapid aging of the population will inevitably increase social security expenditures on the elderly, such as pensions, medical care, and nursing care, and may also have a negative impact on social productivity and thus macroeconomic growth, as the proportion of the working-age population between the ages of 15 and 65 is declining. Therefore, in order to create an environment in which the elderly can participate in social and economic activities, including employment, for as long as possible in good physical and mental health, a sustainable social security system, and various policies aimed at maintaining and improving productivity in the labor market, it is important to consider various factors that may affect the health of the middle-aged and elderly. It is necessary to clarify the various factors that may affect the health status of middle-aged and elderly people and the causal mechanisms of their effects on health.

According to previous studies, factors that influence the mental and physical health of the elderly include demographic and socioeconomic attributes, lifestyle, and the availability of physical, financial, and emotional support within and outside the household. In addition to these factors, Chinese society has traditionally been strongly influenced by Confucian thought, and family ties are still strong, and "grandchild rearing," a uniquely Chinese way of supporting each other within the family, is one of the most important factors that cannot be ignored. In this paper, we conducted an empirical analysis of the impact of "grandchild rearing" on the health of middle-aged and elderly people using the China Health and Retirement Longitudinal Survey (CHARLS), a longitudinal survey of middle-aged and elderly people in China, based on the results of previous studies. Specifically, using the 2011 and 2013 CHARLS, and in order to address endogeneity, we examine regional differences in female labor force participation (FLFP) and female unemployment rate (FUR) between the year of the survey and the previous year. In order to address this issue, we conducted a two-stage least squares (2SLS) and IVprobit analysis using the regional variation in the female labor force participation (FLFP) and female unemployment rate (FUR) as the operating variables. As a result of the "endogeneity test," "weakly controlled variable test," and "overidentification test," "last year's FLFP" passed all the tests, so the variable was set as IV, and "low life satisfaction index," "low psychological health index," "low subjective health view index," and "limited physical function index" were estimated as dependent variables.

The results of the analysis showed that "raising grandchildren" tended to lower the "subjective health view" and "physical function" of middle-aged and older adults, while it had an improving effect on "life satisfaction" and "psychological health status. These results suggest that while middle-aged and older adults may gain mental and psychological satisfaction from raising grandchildren, they may also be physically burdened by it. In order to mitigate such negative effects, it is necessary to consider some kind of mechanism to encourage support from the surrounding people in the community, as well as public support from the government. The results of "demographic and socio-economic attributes" and "existing health indicators" indicate that spreading further

education, developing rural areas, helping middle-aged and elderly people to find jobs, and encouraging family members to interact with them face-to-face are effective in improving the health of middle-aged and elderly people.